

PROCEEDING



**7TH INTERNATIONAL RESEARCH
CONFERENCE ON MULTIDISCIPLINARY IN
SOCIAL SCIENCES AND TECHNOLOGY
(7TH IRCMST 2024)**

2024



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**GLOBAL ACADEMIC EXCELLENCE (M) SDN BHD
2024**

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PREFACE

Dear Authors;

We are delighted to present the proceedings of the 7th International Research Conference on Multidisciplinary in Social Sciences and Technology 2024 (7th IRCMST 2024). This esteemed conference, brings together experts, researchers, and practitioners from across the globe to explore innovative solutions and the latest advancements in the intersection of social sciences and technology. The 7th IRCMST continues the tradition of fostering multidisciplinary collaboration and exchanging cutting-edge research that contributes to addressing some of the most pressing challenges in our society today.

This year's conference features a rich diversity of topics, with contributions spanning areas such as artificial intelligence, digital transformation, behavioral studies, social policy, education, and sustainable development. The research presented here not only reflects the evolving nature of these fields but also highlights the critical need for integrative approaches to solve global issues. We are particularly proud of the efforts made by all participants in advancing knowledge and bridging the gap between technology and human-centric research.

The contributions contained in this volume reflect rigorous academic scholarship and a deep commitment to pushing the boundaries of knowledge. It is our firm belief that these proceedings will serve as a valuable resource for academics, industry professionals, and policymakers seeking insights and innovative approaches in their respective fields.

We would like to express our heartfelt gratitude to all the authors, reviewers, and participants for their dedication and support in making this conference a resounding success. Special thanks also go to conference committee whose contributions have been essential in bringing this event to fruition.

As you explore these proceedings, we hope you will find the research inspiring and thought-provoking, encouraging further dialogue and collaboration to continue advancing the frontiers of social sciences and technology.

We look forward to the continued growth of IRCMST and the exciting directions in which these multidisciplinary fields will evolve.

Sincerely,

The Organizer of

7th International Research Conference on Multidisciplinary in
Social Sciences and Technology (7th IRCMST 2024)

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THE MILLENNIAL AND GEN Z OBSESSION: VIRAL MARKETING, FOMO, AND EXCLUSIVE APPLE PRODUCTS

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Abstract *The rapid development of technology and social media has significantly changed consumer behavior, especially among the millennial generation (Y) and Z. This study aims to analyse the effect of consumer behavior on purchasing decisions, with viral marketing and Fear of Missing Out (FOMO) as mediating variables. The research was conducted on millennial generation (Y) and Z consumers who use Apple products, using quantitative methods through distributing questionnaires to 200 respondents with non-probability sampling techniques, namely purposive sampling technique. Data collection through interviews, observations, and distributing questionnaires using google forms distributed through direct surveys. The data collected was analysed using SEM-PLS to test the hypothesis that had been formulated. The results of this study concluded (1) There is no effect of viral marketing on consumer behavior, (2) There is a significant positive effect between Fear of Missing Out (FOMO) on Consumer Behavior, (3) Viral Marketing and FOMO have mediation in the influence of consumer behavior on purchasing decisions. Managerial implications are important to note that Fear of Missing Out (FOMO) has a significant positive influence on consumer behavior and there is a need to integrate and manage FOMO in Marketing Strategy. In addition, since the study shows that viral marketing and FOMO have a mediating role in their influence on purchase decisions, companies can develop campaigns that effectively combine these two elements.*

Keywords: *Consumer Behavior, Viral Marketing, FOMO, Purchase Decision, Millennial Generation (Y), Generation Z*

Introduction

Consumer behavior in generations Y and Z has taken centre stage in modern marketing studies, especially when they show a strong tendency to purchase exclusive products such as those offered by Apple. Generation Y, also known as Millennials and Generation Z, which is the demographic group that follows them, tend to see the ownership of Apple products as a symbol of status and a desirable lifestyle.

This phenomenon can be seen in their preference for Apple products, ranging from iPhones to MacBooks, where trending factor, technological innovation, and strong brand image play a key role in their purchasing decisions. Understanding the consumer behavior of these two generations is a crucial aspect in designing effective and relevant marketing strategies to reach a target market oriented towards exclusive products. (Howarth, 2024) mentioned that Apple products dominate the global smartphone market, where the iPhone is ranked first compared to other mobile operating systems. In addition, the younger generation in the United States is more likely to be iPhone users. iPhone users are widely used by younger generations with a prevalence of 58% in the age (18-34 years), 47% in the age (35-54 years), and 49% in the age

(55 years and over) who use iPhone products. (Godeliva & Gelgel, 2022) mentioned that generation Z uses Apple products because they have better quality and strong personal branding.

Lately, the lifestyle of influencers on social media has often become a benchmark for the lifestyle desired by their followers. Influencers often share moments on social media ranging from uploading food products to luxury and exclusive products, this is designed for their existence on social media. This indirectly creating viral marketing for a product, thus triggering the FOMO phenomenon. The FOMO phenomenon that occurs as a result of viral marketing can be utilized by marketing practitioners in marketing a product, which can be referred to as a viral marketing strategy. This causes a shift in online marketing, where influencers play an important role in shaping brand credibility and consumer behavior.

In this digitalization era where the market is increasingly competitive, effective marketing strategies are needed to create a memorable experience for consumers. Labelling an ordinary product so that it can get an exclusive status in society. (Han, 2010) further studied the role of brand excellence in signalling status, suggesting that the label of a product can be used to convey exclusivity and status, this phenomenon is supported by the spread of advertisements through social media which is recently known as viral marketing.

In the context of FOMO and the purchase of exclusive products by millennials (Y) and Z generations, there are several dimensions that will be raised in this study to better understand the impact and interaction between the two factors. From the psychological side, which includes the emotional and psychological aspects of FOMO, such as the fear of loss, the desire to connect, and the need for social validation. (Yaputri, Dimiyati, & Herdiansyah, 2022) explained that FOMO has an influence on consumptive behavior such as in purchasing decisions that are influenced by the desire to be considered trendy and feel connected to society. There are several areas that can be identified and studied in depth, namely although it is mentioned that FOMO affects the way generations Y and Z respond to exclusive products, further explanation of the internal mechanisms of FOMO, such as how the fear of missing out, the need to connect, and the need for social validation, affect consumer behavior towards purchasing decisions and how the internal mechanisms of viral marketing can change consumer behavior in purchasing decisions.

The purpose of this study is to verify the effect of Consumer Behavior on Purchase Decision, measure how much influence Viral Marketing has on Consumer Behavior, explore the effect of Fear of Missing Out (FOMO) on Consumer Behavior, then measure how much influence Consumer Behavior is mediated by Viral Marketing and Fear of Missing Out (FOMO).

Literature Review

Consumer Behavior

According to (Nugroho, 2019) Consumer behavior is an action that is directly involved in obtaining, consuming, and spending products or services, including the decision process that precedes and follows this action. Which means consumer behavior is indicated by the buying behavior of each consumer for their own consumption.

Consumer behavior can be measured through various dimensions that have been identified in various studies. Here are some of the main dimensions of consumer behavior according to (Engel, Blackwell, & Miniard, 1994). Individual differences, including consumer resources,

motivation and involvement, knowledge, attitudes, personality, values, and lifestyle, as well as demographics.

- Environmental influences include culture, social class, personal and family influences
- Psychological processes, including information processing, learning, changes in attitudes and behavior

Viral Marketing

According to (Motoki, Suzuki, Kawashima, & Sugiura, 2020; Nguyen, 2020), viral marketing is a marketing strategy that causes consumer intention to share information and is described as a marketing tool or marketing phenomenon to encourage and urge consumers to share messages by utilizing interactions in the media.

These studies collectively highlight the significant impact of viral marketing on social media and its potential success in reaching a wide audience.

(Kaplan & Haenlein, 2011) mentioned three dimensions or conditions that can create and be used as benchmarks in viral marketing:

- Messenger: An important element in creating a viral marketing epidemic is getting the right people to disseminate the message. The three groups of messengers necessary to ensure the transformation of an ordinary message into a viral phenomenon are market experts, social relations, and sellers
- Message: Only good and memorable messages that are interesting enough to be passed on to others can spur the viral marketing phenomenon
- Environment: Besides getting the right message to the right people, environmental conditions can influence success and failure in viral marketing. Clarifying and organizing information related to potential viral marketing measures, possible key measurements should be considered about the objectives formulated for the viral campaign

Fear of Missing Out (FOMO)

According to (Alfina, Hartini, & Mardhiyah, 2023), the presence of social media has provided many benefits while causing problems. One term that describes this double-edged sword is "Fear of Missing Out" (FOMO). Anticipation of missing out and anticipation of envy towards others, can increase FOMO. FOMO can be reduced when individuals find ways to address their concerns about feeling left out. This is important because the impact of FOMO can be very significant on purchasing decisions and consumer preferences.

FOMO is an opportunity to participate in an activity or own a product that is considered important by the social environment. In this case, the social environment plays an important role in influencing consumer behavior through the fear of missing out on these opportunities. This fear creates feelings of discomfort and stress for individuals, which triggers the motivation to buy products or follow certain trends.

According to (Przybylski, Murayama, Dehaan, & Gladwell, 2013), FOMO behavior is characterized by a desire to stay connected to what others are doing. So, whatever is done by others will be very interesting to imitate, whether it is done by people in their circle or people seen on social media. Consumers who are affected by FOMO tend to buy products or follow

certain trends for fear of being left behind in their social environment; this is done without paying attention to certain factors such as price, product quality, and personal needs.

Based on the research that has been done, there are four dimensions of FOMO, namely

- Belonging desire includes prestige sensitivity
- Connectedness, praise from others
- The anxiety of isolation includes being alienated
- Being ignored, falling behind

Purchase Decision

According to (Tjiptono, 2019), consumer behavior is an action that is directly involved in obtaining and determining products and services, including the decision-making process that precedes and follows these actions. Consumers must go through the entire sequence of stages when buying a product. Especially because this model accommodates all the considerations that arise when consumers face new purchases with higher orders.

(Kotler & Armstrong, 2018) suggest that purchasing decisions have the following dimensions:

- Product choice, where in buying products and other purposes, consumers must make decisions. In this case, the company must increase its attention to customers or potential customers who are interested in buying products and the alternatives they are considering
- Brand choice, where a brand has its differences, thus making consumers have to choose and make decisions about the brand to be purchased. In this case, the company must know the reason the customer chooses a brand
- Choice of distributor, where every consumer in buying a product must have factors that make it easier, such as close location, low price, complete inventory of goods, convenience in shopping, breadth of place, and others. In this case, the company must know the reasons why customers choose a distributor
- Purchase time, where in the selection of purchasing time consumer decisions determine the time when to buy a product and produce it and then buy it back; in this case, the company must know when the customer will buy the product according to their needs.
- As for the number of purchases, wherein how much the product will be spent, consumers can also make decisions on how many products to buy for their needs. In this case, the company must know how many product purchases there are in one purchase
- Payment method, where in purchasing a product or service, consumers make decisions about the payment method to be used

Brand Awareness

Brand awareness is the ability of a prospective buyer to recognize or recall a brand as part of a particular product category. Brand awareness describes the presence of a brand in the minds of consumers, which can be decisive in some categories and usually has a key role in brand equity. Brand awareness is the ability of a consumer to identify a brand (either recognize or remember it) with certain details (symbols, sounds, images, etc.) in making purchases. Brand awareness does not require a consumer to recall the name of a brand, but only to remember the small details of a brand, such as symbols, sounds, colours, and so on. Brand awareness plays a role in influencing consumer purchasing decisions. Consumers will choose a product that they know

better than buying a product they have never known at all. Therefore, achieving consumer awareness is one of the marketing targets that companies need to aim for.

The formation of brand awareness can be done by proving the quality of the products produced. Quality is one of the requirements and factors that consumers consider before buying a product. By utilizing the strength of its product quality, companies can form brand awareness.

Four indicators can be used to determine how far consumers are aware of a brand, including the following (Kriyantono, 2006):

- Recall, which is how far consumers can remember when asked what brands they remember
- Recognition is how far consumers can recognize the brand belongs to a certain category
- Purchase, namely how far consumers will include a brand in choices when buying a product or service
- Consumption, namely how far consumers can recognize brands when using products and services

Exclusive Products

Exclusive product labelling has great potential to become a viral marketing resource. When brands create products or experiences that are considered rare or exclusive, this naturally sparks curiosity and interest from consumers. Brands that can manage their exclusive labelling well, can use viral marketing to extend the reach of their message. For example, companies can use social media campaigns or engaging content to introduce their exclusive products to a wider audience, which can then trigger a domino effect where people start looking, talking, and dreaming about owning the product. Eventually, the FOMO phenomenon was created.

Millennial Generation (Y)

Generation Y is the generation born in 1981-1995. Millennials pay more attention to certain aspects, particularly work-life balance, than Generation X (Angin & Saragih, 2021). This generation has a life that is closely related to technology, especially the internet. Another meaning of millennials is young people today. Millennial consumers tend to be tech-savvy and use social media a lot. They are often unresponsive to the barrage of marketing communications they face in their daily lives. They are eager to have access to information anywhere and anytime. They are attracted to higher levels of stimulation and are easily bored. As consumers, they want faster product turnaround, personally relevant promotions, and interactive marketing platforms. Many want to design their products, build and manage their networks, and rate products. They are comfortable shopping online or shopping on mobile devices for various products.

Generation Z

(Margery, 2019) mentioned that Generation Z is very close to social media, with the information obtained by them either through the Instagram application, or others. At this time, entrepreneurs must prepare themselves to engage with Generation Z because they are potential consumers for now and in the future.

(Santoso & Triwijayati, 2018) As mentioned generation Z is a generation that has a very high level of education, diversity, and use of technology; according to (Costa E Silva, Machado E,

& Cruz, 2017), technology in this generation has a very important influence role. Generation Z belongs to a generation that lives with the openness of all information boundaries through social media and the internet, and this generation has a high imagination and lifestyle that is never separated from the internet. Research conducted by (Stillman & Stillman, 2018) argues that Generation Z is the latest working generation, born between 1995 and 2012, which can also be referred to as the net generation or internet generation.

According to (Andriany, 2019), Generation Z has a high level of consumption and is very easy to make purchases even though the products purchased are less needed or not needed at all. According to (Wirokarto, 2013), one of the reasons for the high level of consumption of Generation Z is due to the ease with which Generation Z is influenced by online media or social media and affects the relationship between Generation Z and brands and purchases.

Research Model and Hypothesis

The Effect of Viral Marketing on Consumer Behavior

Research (Hidayati, 2018) proves that viral marketing has a significant effect on purchasing decisions. Likewise, research conducted (Farih, Jauhari, & Widodo, 2019) found that viral marketing has a positive effect on purchasing decisions. (Hidayati, 2018) stated that viral marketing is one of the easiest ways to get information by talking about the products to be purchased, price, quality, and so on. With consumers talking about the product, it will make it easier to decide on a purchase. Therefore, viral marketing can influence purchasing decisions because viral marketing spreads and receives information more quickly on social media.

H1: There is an influence of viral marketing on positive consumer behavior.

The Effect of Fear of Missing Out (FOMO) on Consumer Behavior

Research (Ratnaningsih DS & Halidy, 2022) confirmed that Fear of Missing Out has a positive and significant influence both partially and simultaneously on consumer purchasing decisions. Similar findings were also conveyed by (Syafaah & Santoso, 2022).

H2: There is a positive influence of Fear of Missing Out (FOMO) on consumer behavior.

Consumer Behavior Affects Purchasing Decisions Through Viral Marketing and Fear of Missing Out (FOMO)

(Yaputri et al., 2022) Explains that FOMO has an influence on consumptive behavior such as in purchasing decisions that are influenced by the desire to be considered trendy and feel connected to society, (Ansari, Ansari, Ghor, & Kazi, 2019) There is a positive but weak relationship between brand awareness and purchasing decisions. This is very opposite to the current market conditions where the purchase of Apple-exclusive products is thought to be due to the influence of the Fear of Missing Out (FOMO) trend and a viral marketing method using digital technology to market these exclusive Apple products so that it affects consumer behavior to be able to buy them massively.

Several areas can be identified and studied in depth, that FOMO affects the way generations Y and Z respond to exclusive products, further explanation of FOMO, such as how the fear of missing out, the need to connect, and the need for social validation, affect consumer behavior

towards purchasing decisions and how the internal mechanisms of viral marketing can change consumer behavior in purchasing decisions.

H3: Consumer behavior has a positive effect on purchasing decisions, mediated by viral marketing and fear of missing out (FOMO).

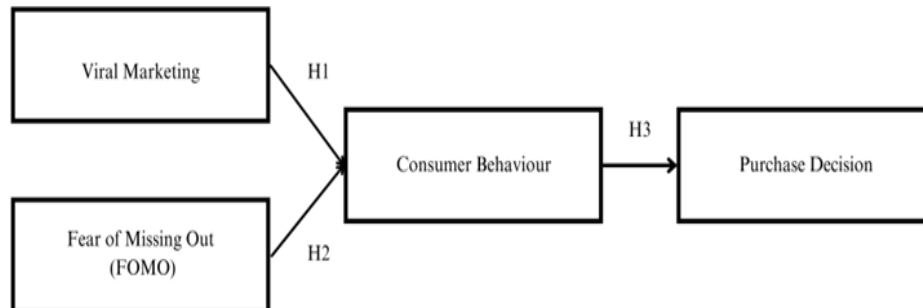


Figure 1: Research Model Framework

Based on Figure 1 above, the hypothesis proposed is:

H1: There is a positive influence of viral marketing on consumer behavior

H2: There is a positive influence of Fear of Missing Out (FOMO) on consumer behavior

H3: Consumer behavior has a positive effect on purchasing decisions, mediated by viral marketing and fear of missing out (FOMO)

Research Methods

This study uses independent variables, namely consumer behavior (X), the dependent variable in this study is purchasing decisions (Y), and the moderating variables in this study are viral marketing and FOMO (Z). Data collection techniques include distributing online questionnaires via Google Forms and direct surveys containing questions, which will be used as answers from respondents. The 5-point Likert scale measures how strongly or often customers experience FOMO caused by viral marketing on social media for exclusive products (Apple) and asks the extent to which respondents feel pressured by the fear of losing opportunities in purchasing decisions and owning these exclusive products. The population used in this study are consumers who have social media with an age range of 24 to 34 years. The sampling method uses non-probability, namely the purposive sampling technique. According to (Hair, Black, Babin, & Anderson, 2010), the determination of the minimum sample size is calculated based on the following formula: $N = \{5 \text{ to } 10 \times \text{the number used}\}$. $= 5 \times 38 = 190$ respondents. The type of research conducted is quantitative research. This research data will be analysed using the Partial Least Square (PLS)-Structural Equation Modelling (SEM) method on SmartPLS 3.0 software.

Results and Discussion

Demographic Characteristics

By understanding these demographic characteristics, the research can focus more on how consumer behavior, mediated by viral marketing and FOMO, affects the purchase decision of Apple iPhone products in the group of respondents studied.

Demographic characteristic below is the distribution by year of birth based on generation of respondents.

Table 1: Year of Birth (Generation)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1965 - 1980 (X)	7	3,5	3,5	3,5
	1981 - 1995 (Y)	97	48,5	48,5	52,0
	1996 - 2012 (Z)	96	48,0	48,0	100,0
	Total	200	100,0	100,0	

Source: Analysis with SmartPLS 3.0 (2024)

Most of respondents were from Generation Y (1981–1995) with 97 people (48.5%), followed by Generation Z (1996–2012) with 96 people (48%). Generation X (1965–1988), although small with only 7 respondents (3.5%), illustrates the different purchasing patterns and product preferences of each generation.

Table 2: Active User of Social Media

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	200	100,0	100,0	100,0

Source: Analysis with SmartPLS 3.0 (2024)

All 200 respondents (100%) admitted to being active social media users. This fact shows that viral marketing and the influence of social media platforms can have a big impact on consumer behavior towards Apple products.

Table 3: Own an Apple Product

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	200	100,0	100,0	100,0

Source: Analysis with SmartPLS 3.0 (2024)

The entire research sample, 200 respondents (100%), are Apple product owners. This universal presence confirms the high level of Apple product adoption among this population.

Table 4: How Many Times in a Year You Purchased Apple Products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than once	46	23,0	23,0	23,0
	One time	128	64,0	64,0	87,0
	Never	26	13,0	13,0	100,0
	Total	200	100,0	100,0	

Source: Analysis with SmartPLS 3.0 (2024)

In terms of purchasing Apple products, the majority of respondents, 128 people (64%), admitted to purchasing these products once a year. A total of 46 people (23%) said they buy Apple products more than once a year, while another 26 people (13%) never buy these products directly (gift or given by someone else).

Table 5: How Many Times in a Year You Purchased Apple Products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than once	46	23,0	23,0	23,0
	One time	128	64,0	64,0	87,0
	Never	26	13,0	13,0	100,0
	Total	200	100,0	100,0	

Source: Analysis with SmartPLS 3.0 (2024)

In terms of purchasing Apple products, the majority of respondents, 128 people (64%), admitted to purchasing these products once a year. A total of 46 people (23%) buy Apple products more than once a year, while another 26 people (13%) never buy these products directly (gift or given by someone else).

This study applies data analysis techniques using structural equation modelling (SEM) using SmartPLS 3.0 software. SEM is used to examine the relationship between one or more variables under study (endogenous) and one or more variables that influence it (exogenous).

Outer Model Test

Discriminant Validity

Discriminant validity reflects that measures of different constructs should not have a high correlation. In the context of reflective indicators, discriminant validity is assessed by the cross-loading for each variable, which should be >0.70 (Ghozali, 2021).

Table 6: Discriminant Validity

	FOM O	Purchase Decision	Consumer Behavior	Viral Marketing
FOMO	0,620			
Purchase Decision	0,900	0,656		
Consumer Behavior	0,554	0,506	0,598	
Viral Marketing	0,665	0,743	0,544	0,73142257

Source: Analysis with SmartPLS 3.0 (2024)

The discriminant validity test is carried out by examining the value of cross-loads between variables. A low cross-loading value indicates that indicators of one construct variable do not tend to measure other construct variables. In other words, each construct variable can clearly distinguish between other constructs in the model. Results that show significant differences between cross-loadings support the discriminative ability of construct variables in distinguishing between each other in the broader context of analysis.

Reliability Test

The reliability test is carried out to confirm the accuracy, consistency, and accuracy of the measuring instrument in measuring the construct (Ghozali, 2021). In PLS-SEM using SmartPLS 3.0 software, reliability can be evaluated as follows:

- Composite Reliability (CR): Measures internal consistency. A CR value of 0.60–0.70 is acceptable for exploratory research (Ghozali, 2021).
- Cronbach's alpha: measures the consistency of the entire scale with reliability values. A Cronbach's alpha value of >0.60 is acceptable for exploratory research.

Table 7: Reliability Test

	Cronbach's Alpha	Composite Reliability (rho_a)
FOMO	0,649	0,648
Purchase Decision	0,904	0,912
Consumer Behavior	0,839	0,840
Viral Marketing	0,854	0,866

Source: Analysis with SmartPLS 3.0 (2024)

To measure the internal reliability of the instruments used, this study conducted the Cronbach alpha and composite reliability tests. Both values must exceed the minimum threshold of 0.600 to be considered reliable. Cronbach's alpha is used to measure internal consistency between indicators in one construct variable, while composite reliability measures the total reliability of the construct from its indicators. By getting a value that meets or exceeds the set standard, it can be ascertained that the construct variables used in this study have adequate.

Evaluation of the structural model (Inner Model)

R-squared (R^2) value

Evaluation of the structural model in PLS-SEM aims to see the predictive power of the structural model (Ghozali, 2021). The metrics used to evaluate the inner model are as follows: R-squared (R^2) value.

Evaluation of the structural model in PLS begins by looking at the R-squares value for each endogenous latent variable as an indication of the predictive power of the structural model. R-squares values of 0.75, 0.50, and 0.25 are used as rules of thumb to determine the strength of the model (Chin, 1998). These values indicate strong, moderate, and weak models, respectively.

Table 8: R Square Test

	R-square	Adjusted R-square
FOMO	0,306539119	0,303036792
Purchase Decision	0,847784979	0,846239648
Viral Marketing	0,198215245	0,194165827

Source: Analysis with SmartPLS 3.0 (2024)

Purchase Decision: The adjusted R-squared value for this variable is 0.8462. This means that about 84.62% of the variation in purchase decisions can be explained by other variables in the model, such as viral marketing and fear of missing out (FOMO). This value indicates that the model has "strong" power in explaining the variation in purchase decisions of Apple products based on the variables involved.

Test Significance (Two-tailed):

Test significance done For evaluate influence between variable (variable exogenous to variable endogenous). In SmartPLS 3.0 software, the test significance use procedure bootstrapping. Bootstrapping involving use repeat all over sample original For get resampling. (Chin dkk., 2010) recommend use amount sample bootstrap between 200 to 1000 for correcting estimate standard error PLS. Rules practical For mark significance two tailed is as following : T- value 1.65 (level significance = 10%), 1.96 (level significance = 5%), and 2.58 (level significance = 1%).

Table 9. T- test

	Original sample (O)	T statistics (O/STDEV)	P values
Viral Marketing -> Behavior Consumer	0.111	1,335	0.182
Fear of Missing Out -> Behavior Consumer	0.572	6,811	0,000

Source : Analysis with SmartPLS 3.0 (2024)

- For hypothesis test 1, it was found that t - value of 1,335, which is more small from t table value 1.96, with mark significance 0.182. This result show fail For reject null hypothesis. With so, no there is influence Viral Marketing to behavior consumer.
- For hypothesis test 2, the results show that t - value of 6,811, which is far more big from t table value of 1.96, with mark significance (sig) of 0.000, which is more small from 0.005. This is indicates rejection hypothesis zero and acceptance hypothesis alternative. With Thus, there are influence positive significant between Fear of Missing Out (FOMO) to behavior consumers, with big influence of 0.572. Coefficient positive This show that the more tall level The FOMO felt by consumers is increasing big possibility they For show behavior influenced by factors This.

Table 10. Test Influence No Direct

	Original sample (O)	T statistics (O/STDEV)	P values
Behavior Consumer -> FOMO -> Purchase Decision	0.403	9,568	0,000
Behavior Consumer -> Viral Marketing -> Purchase Decision	0.115	3,663	0,000

Source : Analysis with SmartPLS 3.0 (2024)

- For hypothesis test 3, the calculated t value of 9,568, exceeding t table value 1.96, with significance 0.000. This indicates rejection hypothesis zero and acceptance hypothesis alternative. With Thus, there are influence positive significant from behavior consumer through Fear of Missing Out (FOMO) to decision purchase, with coefficient regression of 0.403. This is show that the more tall level The FOMO felt by consumers is increasing big possibility they For influence decision purchase. The calculated t value was also found by 3,663, exceeding t table value 1.96, with significance 0.000. This result show rejection hypothesis zero and acceptance hypothesis alternative. This means that there are influence positive significant from behavior consumer through viral marketing to decision purchase, with coefficient regression of 0.115. Coefficient positive This show that the more tall level influence viral marketing felt by consumers, increasingly big possibility they For influence decision purchase Apple products. Here, viral marketing and FOMO own mediation in influence between behavior consumer to decision purchase

Correlation Analysis

Table 11: Correlation Test

No. Item	Indicator	Statistical Result
FOMO_02	When I buy Apple products, I feel like I have the same taste as other Apple product users and feel connected in the same euphoria.	0,503
FOMO_04	I am interested in buying Apple products to be recognized by people in my environment	0,724
KP_11	I wait for a special promotion or discount period to buy Apple pr	0,544

KP_07	Apple's product innovation makes me buy the product	0,753
PK_03	I buy Apple products because of the exclusivity factor and following the lifestyle	0,705
PK_09	I buy Apple products because of mere desire	0,545
VM_01	I see viral content by looking at influencers or advertisements through the number of followers on social media.	0,638
VM_06	Social media or digital platforms are closely related to rapid and massive virality.	0,778

Source: Analysis with SmartPLS 3.0 (2024)

Based on the correlation data provided, for the "Fear of Missing Out" (FOMO) variable, the item with the highest correlation (FOMO_04) is "I am interested in buying Apple products to be recognized by people in my environment," with a correlation value of 0.724. This indicates that many respondents tend to buy Apple products to gain social recognition and desire to be recognized by people around them. On the other hand, the item with the lowest correlation in this variable (FOMO_02) is "When I buy Apple products, I feel I have the same taste as other Apple product users and feel connected in the same euphoria," with a correlation value of 0.503, indicates that the sense of connection and euphoria with other users is not the main factor in influencing the decision to buy Apple products.

For the "Purchase Decision" (KP) variable, the item with the highest correlation is "Apple's product innovation makes me buy the product" (KP_07) with a correlation value of 0.753, indicates that Apple's product innovation is very instrumental in encouraging consumers to buy the product. Conversely, the item with the lowest correlation is "I wait for a special promotion or discount period to buy Apple products" (KP_11) with a correlation value of 0.544, which indicates that special promotions or discounts do not have a significant impact on purchasing decisions for Apple products.

In the "Consumer Behavior" (PK) variable, the item with the highest correlation is "I buy Apple products because of the exclusivity factor and following the lifestyle" (PK_03), with a correlation value of 0.705, which indicates that exclusivity and following the lifestyle are important factors in motivating the purchase of Apple products. The item with the lowest correlation is "I buy Apple products because of mere desire" (PK_09), with a correlation value of 0.545, indicating that mere desire is not a dominant factor in purchasing decisions for Apple products.

Finally, in the variable "Viral Marketing" (VM), the item with the highest correlation is "Social media or digital platforms are closely related to very fast and massive virality" (VM_06) with a correlation value of 0.778, which indicates that social media platforms and fast virality play an important role in influencing consumers' perceptions and purchasing decisions of Apple products. On the other hand, the item with the lowest correlation is "I perceive viral content by looking at influencers or advertisements through the number of followers on social media" (VM_01), with a correlation value of 0.638, which indicates that influencers or viral advertisements have not been a major factor in motivating the purchase of Apple products.

Discussion

For hypothesis test one, it was found that the calculated t value is 1.335, which is smaller than the t table value of 1.96, with a significance value of 0.182. These results indicate a failure to

reject the null hypothesis. Thus, there is no effect of viral marketing on consumer behavior. Therefore, although viral marketing is known to accelerate the spread of product information through digital platforms and increase awareness, the hypothesis test shows that there is no direct influence of viral marketing on consumer behavior in purchasing decisions. This finding is in line with research conducted by (Muliajaya, Sujana, & Indrayani, 2019) which shows that while viral marketing can increase broad product exposure, its influence on purchasing decisions can be more limited and indirect. In context, viral marketing is a marketing strategy that utilizes social media and content that can spread quickly to promote products. When it comes to Apple's exclusive products, this article will explain why viral marketing does not always have a significant effect on purchase decisions for Apple products, as well as the managerial implications of these findings. From the explanation above, some factors make viral marketing not have a significant effect on purchasing decisions, which are as follows:

- Strong and proven brand presence:

Apple consumers often make purchasing decisions based on brand loyalty and trust in product quality rather than solely on viral content. Established brands like Apple tend to have greater influence through traditional advertising, product reputation, and user experience than through viral marketing

- Limitations of Viral Marketing Scope:

While viral marketing can reach a wide audience, its effectiveness often depends on the relevance and appeal of the content. For premium products like the iPhone, an extremely specific and quality-oriented audience often requires a more personalized and focused marketing approach, not just viral content

- Market leadership and continuous innovation

Apple is known for its product innovations and innovative technology launches that its loyal customers often look forward to. So, while viral content can add exposure, consumers' loyalty and expectations of Apple's innovations make viral marketing less effective than a strategy based on product features and quality

- Influence of External Factors and Social Media:

Social media and viral content often only have a temporary impact. If consumers already have a strong decision about an Apple product, the influence of viral marketing may not be significant in changing that decision

For the Hypothesis test two, the results show that the t value is 6.811, which is much greater than the t table value of 1.96, with a significance value (sig) of 0.000, which is smaller than 0.005. This indicates rejection of the null hypothesis and acceptance of the alternative hypothesis. Thus, there is a significant positive influence between Fear of Missing Out (FOMO) and consumer behavior, with a magnitude of 0.572. This positive coefficient indicates that the higher the level of FOMO perceived by consumers, the more likely they are to exhibit behavior influenced by this factor.

There is consistent evidence showing that Fear of Missing Out (FOMO) plays a significant role in influencing consumer behavior regarding purchasing decisions, in line with studies conducted by (Hidayati, 2018; Ratnaningsih DS & Halidy, 2022; Syafaah & Santoso, 2022) The findings of the hypothesis test that there is a significant positive effect between FOMO and consumer behavior (with an effect size of 0.572) also collaborate the results of this study, which underline the importance of the internal mechanism of FOMO in the context of purchasing decisions.

For the hypothesis test three, the calculated t value is 9.568, exceeding the t table value of 1.96 with a significance of 0.000. This indicates the rejection of the null hypothesis and acceptance

of the alternative hypothesis. Thus, there is a significant positive effect of consumer behavior through Fear of Missing Out (FOMO) on purchasing decisions, with a regression coefficient of 0.403. This indicates that the higher the level of FOMO felt by consumers, the more likely they are to influence purchasing decisions. It was also found that the calculated t value was 3.663, exceeding the t table value of 1.96, with a significance of 0.000. These results indicate rejection of the null hypothesis and acceptance of the alternative hypothesis. That is, there is a significant positive effect of consumer behavior through viral marketing on purchasing decisions, with a regression coefficient of 0.115. This positive coefficient indicates that the higher the level of viral marketing influence perceived by consumers, the more likely they are to influence the purchase decision of Apple products. Here, viral marketing and FOMO have mediated the influence between consumer behavior and purchasing decisions, highlighting the complexity of today's digital marketing dynamics. The integration of theory and results indicates that effective marketing strategies should consider not only external factors such as viral marketing but also internal psychological factors such as FOMO to optimize their influence on consumer behavior.

Conclusion

This study reveals that, although viral marketing does not show a significant direct influence on consumer behavior among millennial (Y) and Z generation Apple product users, Fear of Missing Out (FOMO) has a significant positive influence on consumer behavior. This finding suggests that FOMO plays an important role in influencing consumer behavior and their purchase decisions. Although viral marketing may not directly influence consumer behavior, the influence of FOMO in this study is an important variable that strengthens the relationship between consumer behavior and purchase decisions. Thus, for effective marketing strategies, marketers need to consider FOMO as a major factor in designing sales strategies that can influence consumer behavior and purchasing decisions.

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DIVORCE FACTORS AND THE INFLUENCE OF THE MASS MEDIA CONTRIBUTE TO GENDER CONFUSION AMONG MALE SEX OFFENDERS. A COMPARISON OF VARIOUS THEORIES

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Abstract: *This study discusses the factors that contribute to gender confusion among sex offenders who are involved with paraphilia known as Gay. All respondents are undergoing treatment related to sexuality at a rehabilitation center in Kajang, Selangor. This qualitative case study uses interview techniques for data collection. The analysis involved 6 male respondents aged between 21 and 50 years. They have worked in various fields such as lawyers, business, beauty, and labor. The results of the qualitative findings found two factors that contribute to gender confusion, namely the factor of family divorce and the influence of the mass media. These findings are linked to a combination of four approaches which are human development (human development approach), personality development (personality development), humanity (humanistic) and social learning (social learning theory) which refers to Erickson's Theory (1968), Freud's Theory (1905), Rogers' Theory (1959) and Bandura's Theory (1960) to see the connection gender dysphoria with early childhood development at the age of 9 to 12 years.*

Keywords: *Divorce, Mass Media, Gender Disorder, Sexual Offenders, Rehabilitation*

Introduction - Literature Review

The Relationship Between Family Divorce and Gender Dysphoria

Divorce is a social reality that often has a profound impact on all parties involved, especially children. In this context, children are the most vulnerable and exposed to the negative effects of divorce. Children who experience parental divorce often experience great emotional and psychological stress. They may experience feelings of sadness, anxiety, anger, and confusion. Losing a sense of stability in the family can damage the level of self-confidence and form a negative self-image.

According to Caksen (2022), divorce is a life event with a high level of stress for the whole family. Children who experience parental divorce are at higher risk of developing a range of mental health conditions including emotional and behavioral disorders, poor school performance, depression, anxiety, suicidal ideation, suicide attempts, distress, smoking and substance abuse. In another study, parental divorce was significantly associated with higher alcohol use disorders and cigarette dependence than other adolescents. In a clinical observational study, it was found that the implications of divorce lead to various emotional, behavioral, and psychosomatic disorders in the pre-adolescent and adolescent stages, after the separation or divorce of the parents. This is because children often lack the information and skills to overcome the challenges of divorce. The relationship of conflict between parents becomes the biggest obstacle that makes it difficult for children to successfully deal with changes in the family. Although parents face heavy feelings, it is natural to prioritize children in the family relationship between spouses and children. The most effective way to minimize

a child's emotional strain from divorce is to ensure that the child maintains a close and secure relationship with both parents.

Objectives of the Study

- i. Exploring the factors of gender confusion in early childhood development
- ii. Exploring factors contributing to gender dysphoria among sexual offenders from a family perspective
- iii. Exploring factors contributing to gender dysphoria from a media and technology perspective among sex offenders.

Results and Discussion

Early Childhood Developmental Factors and Relationships with Gender Disorder

At the initial stage of the analysis of this finding, the researcher tried to see the findings of 6 respondents in terms of their early childhood development. Early childhood development greatly influences the thinking, emotions and behavior of teenagers and adults. This means that what happened in the past greatly affects the attitude, behavior and self-concept of people today. All of this is related to the perception, values, and morals held and formed by a family in a household. In examining the relationship between children's past and adult behavior, there is now much in Western and Islamic psychology and educational theory. For example, Ann Roe's Theory (1953) and Freud's Theory (1905) discuss a lot about adult behavior in terms of psycho-social and the development of personality and human character today is caused by the style of upbringing and education received in childhood. Ann Roe's theory relates fathers who educate their children according to different parenting styles which are emotional focus, away from children and accepting children. He emphasized on the factors of heritage and environment that shape the character and temperament of children in choosing a career that suits them. Ann Roe added that children who are educated since childhood with humanistic traits such as love, communication, respect and emphasizing emotions will produce individuals with humanistic traits when they grow up.

Likewise in Freud's Theory (1905) which emphasizes the events of childhood's past which are very significant in the development of adults. In the oral stage, for example, according to Freud, children need to be nurtured with the sense of "taste" located in the mouth. If the child does not get oral or oral satisfaction from the mother during infancy, then when he grows up later, a young man will have a sense of mouth that he wants to satisfy by smoking cigarettes. By smoking cigarettes will be able to fulfill the wishes of the young man who has been desired since childhood.

Thus in talking about the early development factors of children with gender dysphoria, human development (human development approach), personality development (personality development), humanity (humanistic) and social learning theory (social learning theory) used as the basis of this study, namely Erickson's Theory (1968), Freud's Theory (1905), Rogers'

Theory (1959) and Bandura's Theory (1960) as the basis of this study. These four theories will be linked to the findings of a qualitative study as a backup. This finding to relate the early development of children as well as the deviant sex behavior that occurs in today's teenagers and adults is caused by the early development of the children. Based on the findings of the 6 respondents, the researchers tried to relate the events that happened in the childhood according to their age based on the age stages of Erickson's Theory (1968), Freud's Theory (1905),

Rogers' Theory (1959) and Bandura's Theory (1960). For example, Erickson's theory age (1968) puts 2-8 years, 9-12 years as a period of critical children or known to experience a self-identity crisis. At the age of 13-18 years self-concept begins to form according to Erickson, and Rogers. While 19-25 years Erickson Theory (1968) classification as teenagers to adulthood.

In general, these findings relate to the development of children and adolescents based on the theory and behavior of sex reversal. Everything starts with a triggering factor or "antecedent".factors" which is a factor that relates the effects of deviant sex behavior stemming from a phenomenon that occurred in childhood. factor "antecedents"such as fragile families, divorced parents, children left with grandparents and guardians are factors that trigger gender confusion among the children concerned. In the context of the children's development, they have no place to ask questions, complain about their fate, get confused and finally follow their instincts to tend towards gender confusion.

"My parents are divorced; I was raised by my grandparents. I am free to do anything. Grandparents do not care about me"

(Respondent A)

"After my mother separated, I was raised as a caretaker. I am confused with myself and do not know who to ask and complain about my fate"

(Respondent D)

There are four basic combinations of approaches namely (human development approach), personality development (personality development), humanity (humanistic) and social learning theory (social learning theory) which refers to Erickson's Theory (1968), Freud's Theory (1905), Rogers' Theory (1959) and Bandura's Theory (1960) as the basis for discussing perverse sex behavior among sex offenders in their childhood. It starts with Erickson's Theory (1968) which seesthe feeling of guilt of children aged 4-5 years, having inferiority towards the abilities of themselves and others when aged 6-12 years occurs. If they are always laughed at and cannot interact well with the environment, it gives a negative attitude. Self-formation continues to develop without positive reinforcement resulting in emotional conflict and low self-esteem. Thus, this is what Erikson suggests that children raised in divorced family environments may develop weak emotions, feelings of inferiority, and a need for adult guidance. This continuous self-conflict and emotions, if left unresolved, these persistent internal conflicts and emotional struggles can lead to an identity crisis.

While Freud's Theory (1905) associates child development at ages 6 to 11 with a phase of integrating sexual fantasies, sexual energy, social interactions, communication, and self-confidence. According to Freud's theory of psychosexual development, children are raised with sexual fantasies and energy, have an interest in socializing with other children, and seek communication through play, which gradually helps them build self-confidence. If, between the ages of 6 and 11, they encounter situations that are not well-managed—particularly

regarding sexual fantasies, social interactions, and communication—this can erode their ability to build self-confidence effectively. Freud referred to children experiencing sexual confusion as having an Oedipal conflict., make-up artists, truck drivers, general laborers, dispatch riders, grab drivers, cooks, and so on.

Family Separation Factors Cause Gender Disorder ***Family Separation***

"My family separated since I was 9 years old. My father had an argument with my mother and left the house. Since then, I was raised by my mother. I also have no place to ask"

(Respondent A)

Divorce results in unstable emotional effects on children. According to Rebecca (2012), children experience feelings of sadness, anger, grief, and stress when parents separate. This aligns with the view of Nurul Husna (2020), who sees a connection between gender dysphoria and parental divorce. There have been cases where divorced parents result in children experiencing stress and needing affection. Environmental factors, such as a caring 'senior brother,' can contribute to the development of deviant sexual behaviors when a child, at the age of 10, does not receive sufficient love from their parents. According to Husna (2022), the same applies to deviant sexual behavior such as Lesbianism. There have been cases where students went abroad for further studies, and during this time, shared a bed with female students in the same room. Over time, the female student developed an addiction to lying down and making physical contact with each other under the blanket while sleeping together. They eventually developed romantic feelings for each other.

"Since my parents divorced, I was sent to the village. I was cared for and raised by my Grandpa and Grandma. They don't care about me. I was influenced a lot by my friends"

This study is in line with the findings of Kornieko et al. (2016) which showed that peer influence caused gender confusion to occur among students in grades 7 and 8 as well as among students in grade 8. On the other hand, the GI component in gender did not show evidence of peer influence. Importantly, this peer socialization effect was evident even when controlling for the tendency to choose friends similar in gender, (8th graders only).

(Respondent B)

Neglect and Lack of Parental Love

"My parents are busy working; they are not at home. I am influenced a lot by friends who have the same instincts as me"

(Respondent B)

Respondents stated that they were influenced a lot by their peers in terms of shared behavior and feelings. This finding is in line with Weisman and friends (2022) who showed that the value of friends has a positive correlation with the reinforcement of other friends' values. This means that peer values have an indirect effect on other peers who are the same age as them. In addition, the influence of female friends shows a stronger positive relationship between female friends than male friends. This is because the female gender has interest, warmth, experience of playing together as well as facing challenges that cause their relationship to become more intimate and strong when in school.

This is in line with the findings of Gilleta and colleagues (2021) who show that the effect of peer influence is small but significant in relationships in the classroom. This indicates that there

is a small relationship between the influence of peers of the same age and class but it is not significant. Even so, there is still a relationship between peer influence and other peers.

"I have no place to ask and complain about my fate after my parents separated"

(Respondent D)

Respondents stated that parental separation resulted in them feeling unstable and at a standstill. This is supported by Cetinkaya and Ercin (2014) who stated that children experience feelings of rejection, loss, and conflict about who they should be loyal to, along with feelings of guilt. They also feel empty and find it difficult to concentrate in school. According to Prakash and Roy (2023), children who have divorced families have feelings of inferiority complex, affecting their lives and their learning at school. This shows that children who were left at a young age face more pressure than teenagers who can start to think rationally and can accept the situation of separated parents.

Nurturing Style Triggers Feminine Instincts

"My parents wanted a daughter. Thus, as a child. Many of my games are like figurines given to me by my mother"

(Respondent E)

Kurdi (2017) agreed to state that the type of games bought for children depends on their gender. This is related to emotions, and cognitive and how they manage a situation. This is supported by previous researchers such as Freeman (2007) who believed that 40 percent of parents prioritized the process of selecting toys during childhood. This shows that toys have an indirect relationship with children's gender concerns.

"My mother wears girl's clothes, so I feel soft and like a daughter"

(Respondent F)

This finding is supported by Jenkins (2018) who found that children who experience divorced parents will affect the child's hormonal development. This finding found that divorce occurring after the child's age of 13 predicts that the child will have more female hormones. This finding is also supported by Kiecock and Acolt (1988) who found that children from divorced families tend to have androgens. This situation illustrates that it becomes a predictor between the relationship between the attitude and the child's gender. This shows that if the child is a boy, the tendency is to be gentle and have a feminine nature in them.

According to Yildirim and colleagues (2017) found that children with gender dysphoria have a psychiatric diagnosis. As many as 75 percent of children born with attention deficit or

hyperactivity disorder (ADHD) followed by major depressive disorder by 25%. The gender dysphoria group had significantly higher scores in communication, role, affective involvement and general family functioning. This shows that parents need to support their children's emotional and cognitive development. If during this period, the parents are divorced and there is no intensive care for the children, it can tend to cause problems related to gender dysphoria.

Mass Media Factors Influence Gender Confusion

i. Pornography affects Gay behavior

"I learned a lot about Gay porn from Grindr, Mechat and Swingdad. Finding gay contacts is easy at your fingertips"

(Respondent A)

The subject stated that he learned a lot about finding Gay contacts from mobile phone applications. All are available easily and quickly. This shows that technological factors influence respondents to engage in deviant sex behavior with acquaintances who have the same instincts as them. This is consistent with Ithwaite and friend friend (2015) stated that the practice of pornography can also cause a person to experience "hook up" with sexual partners more often, have more "one-night stands," and plan to have more sexual partners in the future than their peers who watch pornography less often. This is also in line with the findings of the researchers, with the Grindr software, a young Gay can easily find new partners and acquaintances who have the same instincts as themselves.

ii. Pornography affects sexual addiction is hard to forget

The practice of pornography also results in an individual experiencing sexual addiction that is difficult to control and extreme in a certain situation. This is in line with Vaillancourt & Bergeron (2019) the effect of watching pornography for a long time can cause extreme addiction to a person, thus affecting health aspects such as causing lack of self-control, infertility, loss of respect, extreme sexual behavior and many more.

This finding is consistent with the findings of Ahmad and colleagues (2011) which shows that sexual addiction is an act that is difficult to abandon. The experimental findings of 20 adolescent boys and 20 adolescent girls in the treatment group who were given a sexual behavior intervention module had changes compared to the control group. Although the adolescent boys and girls were given treatment and intervention for 8 consecutive weeks, the change in sexual addiction behavior showed little and low change. This shows that the factors of adolescent sexual addiction are difficult to deal with. It is possible that at a young age, sexual desire is high so behavior is difficult to change even if the group receives a treatment intervention module. Therefore,

The expected result of the study is to see the factors that contribute to gender confusion among children and teenagers. Two factors that have been identified as contributing to gender dysphoria are family dysfunction and the mass media that influence the development of gender dysphoria and LGBT in Malaysia. According to Zucker et al. (1996) conducted a study of anxiety and divorce in families. The aim of this study is to see the relationship between gender identity disorder (GID) and separation anxiety disorder (SAD) using the DSM III scale among boys. Clinical evaluation was done involving 115 male children through interviews. In order to see the development of the child, an internal group was formed by looking at the two variables SAD and GID in the child. Only children with GID characteristics will be selected to go through the SAD test. The results of the study show that there is a strong relationship between GID and SAD. It was reported in this study that 64 percent of boys have SAD and this is in line with the findings of Coates and Person (1985) who show that many boys who have divorced or troubled families have characteristics of SAD. For example, children will feel "withdrawn", sad and mentally and emotionally disturbed when their parents work or no longer

live together. They will feel difficult and fail to take care of themselves when there is no parent or guardian who can be with them at home. Thus, this factor that contributes to the formation of one's character experiences a "self-identity crisis" and subsequently deviant behavior to gender confusion and deviant behavior.

Conclusion

The development phase of children is a critical development phase in the formation of human character. The role of parents in monitoring, advising and guiding is very important during the developmental phase. Many western psychosocial and learning psychology theories such as Erickson, Bandura, Frued and Rogers emphasize the importance of children's development because in this early development phase many aspects are formed such as self-identity, self-confidence, sexuality, self-concept until the formation of self-identity. Thus, the need for this study emphasizes the phase of children's development that is disrupted due to the family divorce factor and the impact of the mass media as a result of past research surveys and qualitative interviews with respondents. It is hoped that the findings will be able to provide understanding and new discoveries that will be used as intervention guides to deal with the issue of gender confusion and LGBT which is a current trend.

Appreciation

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THE IMPACT OF ENSEMBLE LEARNING ON EDUCATIONAL DATA ANALYSIS

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Abstract: *In data-driven decision-making, ensemble learning is an essential approach that enhances predictive accuracy by integrating multiple machine learning algorithms into an integrated model. This strategy efficiently addresses common challenges like overfitting and data heterogeneity, which frequently occur in real-world datasets. Ensemble learning provides more robust and generalizable predictions by combining the characteristics and strengths of several single-learning models. This study examines the impact of ensemble learning in educational data analysis, focusing on its effectiveness in predicting student performance and other outcomes. The results highlight the importance of ensemble learning approaches in enhancing educational data analysis for accurately predicting student performance, providing valuable insights for educational practitioners and policymakers, and aiding in understanding student progress to improve educational quality.*

Keywords: *Ensemble Learning, Machine Learning, Educational Data Analysis, Educational Data Mining, Student Performance*

Introduction

Educational data analysis plays an important role in educational institutions that make informed and effective data-driven decisions to enhance the quality of education. The use of artificial intelligence (AI) technology, specifically machine learning (ML), in educational data analysis presents a significant opportunity for processing large volumes of data, revealing patterns and insights for effective decision-making and policy-making (Munir et al., 2022). This capacity is crucial for enhancing student performance, optimizing resource allocation, and enhancing overall educational outcomes (Wu & Zheng, 2021).

Although ML, particularly single-learning models, can improve the efficiency of analyzing and processing massive volumes of educational data, its adoption often faces challenges in handling uncertainty, variability in data, and the complexity of real-world scenarios, which leads to reduced accuracy and robustness (Hilbert et al., 2021).

As a consequence, ensemble learning (EL) approaches are becoming increasingly relevant in data-driven decision-making since these approaches integrate several ML models in addressing challenges like overfitting and data heterogeneity, which frequently occur in real-world datasets. In addition, EL in the field of data science has also grown in relevance and significantly improved predictive capabilities and the reliability of the predictive model (Shah et al., 2023). By combining multiple ML algorithms, EL approaches enhance educational data analysis to improve prediction accuracy and reliability, making these approaches particularly beneficial in educational settings (Zeineddine et al., 2021).

EL methods, as ML strategies, have gained significant importance in educational data analysis due to their ability to address the high dimensionality and complexity of large-scale educational data, which often challenges the reliability of predictions (Dasari et al., 2023). Numerous studies have attempted to address challenges related to analyzing the educational data. For instance, Manoharan et al., (2023) employed ensemble approaches, such as Random Forest and boosting, that effectively address the issue of sparse datasets by integrating predictions from several models and help in minimizing the impact of limited data availability. Likewise, the study by Sahlaoui et al., (2021) integrated techniques such as the Synthetic Minority Oversampling Technique (SMOTE) with ensemble models to address class imbalance, resulting in more reliable outcomes in educational assessments.

However, implementing ML in educational data analysis faces challenges such as increased computational demands and potential interpretability issues (Yan & Liu, 2020). These issues highlight the need for exploration of the motivations behind EL adoption and its implications for stakeholders like students, educators, and policymakers. This study aims to examine the impact of EL in educational data analysis, with a particular focus on its influence in improving predictions of student performance and other educational outcomes. The study also explores the potential benefits and practical impact of EL in transforming the educational landscape.

Methods and Data Analysis

This study employed a literature review methodology to examine the impact of EL in educational data analysis, focusing on its role in improving student performance and academic outcomes. The searching literature was retrieved from the Scopus academic database using targeted keywords such as "ensemble learning," "educational data," "academic success," and "student performance." From the search results, a total of 11 studies were selected based on the relevance, recent publication years, and the quality of contributions to the field. Several pieces of information were extracted from the selected studies, including the educational contexts and the outcomes measured. The analysis emphasizes identifying the effectiveness of EL approaches in addressing educational challenges.

Results And Discussions

The review of the study revealed several key findings regarding the impact and application of EL on data analysis in educational settings. The findings demonstrated how EL has helped enhance educational data analysis to improve the accuracy, robustness, and interpretability of predictions related to student academic performance and other educational outcomes. The finding from selected studies showed the adaptability of various EL approaches in addressing a variety of educational challenges, including predicting student performance, identifying at-risk students, predicting dropout rates, and evaluating academic success. The study classified the selected studies into two categories of key motivations: predicting student performance and identifying at-risk students.

Predicting Student Performance

Predicting students' performance accurately is crucial not only for the students themselves but also for academic stakeholders in educational institutions. A total of six studies emphasized employing EL approaches in educational data analysis to predict student performance and academic success with the highest accuracy. For instance, Sateesh et al., (2023) mainly

concentrated on an ensemble classifier with rule mining to predict students' academic success. Throughout the result analysis, the proposed student performance prediction model achieved a 92.77% accuracy rate and a 94.87% sensitivity rate, revealing its effectiveness in predicting various performance metrics.

Another study by Priyambada et al., (2023) proposed a two-layer EL technique that combines EL and ensemble-based progressive prediction, and it utilizes students' learning behavior data and domain knowledge for current and past performances. The results show that the accuracy of the proposed framework on a real-world student dataset is improved. Kumar et al., (2024) suggested a multilevel heterogeneous predictive model for predicting student performance and assessment. The study's results demonstrate a 99.50% predictive accuracy, indicating its effectiveness of the EL model in scientific inquiry.

A number of studies have employed the EL approach to investigate student performance in different education platforms and learning systems. Ara et al., (2022) make use of ensemble-learning approaches to predict student performance in online and offline education platforms. The finding revealed that students do better on online platforms than in traditional education systems. Similarly, Asad et al., (2023) focused on identifying attributes that could help in students' performance in online education through a hybrid ensemble model, making achieving precision education.

Additionally, a group of researchers (Xuan Lam et al., 2024) aim to investigate student learning participation and provide insights into student performance leveraging the data-rich environment of the interactive learning management system. The results in their study indicate the ensemble learning method stacking classifier accurately predicts students' grade ranges, surpassing five individual base classification models by effectively combining these base classifiers predictive capabilities.

Together these studies highlight the importance and the value of ensemble approaches in accurately predicting student academic performance and offering insights for educational practitioners and policymakers seeking to enhance educational outcomes. Additionally, these studies contribute to the field by assisting educational institutions to gain a better understanding of student progress in order to enhance educational quality.

Identifying At-Risk Students

The growing rate of student dropouts is emerging as a significant concern for academic institutions. In this category, the study analyzed five studies that utilized EL approaches in educational data analysis to address this challenge. This includes a study by Saluja et al., (2023) proposed a prediction model using ensemble ML with stacking of four multi-class classifiers to predict the final grade of a student at the earliest possible time and its suitable stream for a new student. The proposed model outperformed predicting the final grade with an accuracy of 93%, compared to the four machine learning (ML) techniques used, which the proposed model allowed for use in timely interventions and support for the identified at-risk students.

Pek et al., (2023) developed a hybrid model using the ensemble stacking method to predict the performance of at-risk students early that assists in minimizing student failure. Thus, teachers will be able to provide extra assistance to students with low performance. Similarly, Niyogisubizo et al., (2022) proposed a novel stacking ensemble based on a hybrid of four multi-class classifiers to predict students' dropouts in university classes. The study reveals the

proposed method effectively identifies students at risk of dropping out by examining influential factors and various educational agents.

In the same study's motivation, Tariq et al., (2023) employed the ExtraTreesClassifier EL algorithm to predict student withdrawals and determined important attributes affecting student retention. While Kumar et al., (2022) demonstrate that optimized ensemble learning (OEL) model approaches are highly efficient and accurate in predicting student performance and identifying students at risk of attrition. The study has contributed to the development of a proposed OEL model that can be used for improving academic performance prediction.

In summary, the reviewed studies highlight the effectiveness of ensemble learning (EL) methods which combines multiple ML algorithms, in educational data analysis for addressing student dropouts in educational institutions. These methods, including stacking ensemble models and optimized EL methods, have shown high accuracy in predicting at-risk students, facilitating timely interventions, and improving academic outcomes. These insights help educators and administrators enhance student retention and success, emphasizing the need for integrating EL models into educational systems.

Conclusion

This study aims to examine the impact of EL in educational data analysis, with a focus on its influence in improving predictions of student performance and other educational outcomes. The findings show that EL has been employed to enhance educational data analysis, particularly in improving the accuracy, robustness, and interpretability of predictions related to student performance. EL approaches are adaptable to address various educational challenges, including predicting student performance, identifying at-risk students, predicting dropout rates, and evaluating academic success. Additionally, the findings outlined the wide-ranging applications of EL in educational data analysis, showcasing its role in optimizing learning processes and supporting institutional decision-making. By integrating multiple algorithms, EL methods were shown to outperform traditional approaches in handling complex datasets, providing educators and policymakers with actionable insights. The study further emphasized the transformative potential of EL in driving academic excellence by enabling personalized learning experiences, targeted interventions, and data-driven educational policies.

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FINANCIAL INCLUSION AS MEANS OF POVERTY MITIGATION IN MALAYSIA: AN OVERVIEW

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Abstract: *Financial inclusion, which encompasses the utilization and accessibility of financial services, has been extensively investigated in literature as a potential tool for poverty reduction. In this study, we examine existing literature to highlight the state at present of research in the field of financial inclusion. Most of the existing research covered a study in developing economies, particularly Asian and African nations. Aside from that, we utilize readily accessible secondary data from the World Bank website to acquire information about Malaysia's financial inclusion achievements. According to the findings of this study, financial inclusion has a significant negative relationship with Malaysian poverty rates. Means an increase in financial inclusion among Malaysian able to reduce poverty rate. As prior studies have focused on other regions or economic clusters, this study may contribute to the current literature by introducing a specific scenario concerning financial inclusion as a tool to eliminate poverty in Malaysia particularly.*

Keywords: *Financial Inclusion, ATMs, Bank Branches, Poverty*

1.0 Introduction

Financial inclusion is a top priority in numerous of the world's largest economic institutions. One goal pursued by developing countries is to eliminate poverty, which can be achieved by increasing financial inclusion. Burgess and Pande (2005) found various advantages of financial inclusion, included poverty reduction, income gap reduction, better financial decisions, improved money saved, more efficient investment, and greater equality between men and women. As a result, financial inclusion can be regarded as a driver of economic progress in developing economies. (Pradhan & Sahoo, 2021; Sethi & Acharya, 2018).

Financial exclusion, or a lack of access to financial products and services, is frequently associated with inequality and poverty at the personal and regional scales (Demirgüç-Kunt & Klapper, 2013; Beck et al., 2007). Financial exclusion occurs when individuals or their families are denied the use of financial services and products. Financial exclusion can create a cycle of poverty, raising levels of inequality (Beck et al., 2007). Furthermore, this issue affects not only developing countries, but also poor regions and communities in manufacturing countries. (Demirgüç-Kunt & Klapper, 2013).

More than half of the world's extreme poor (50.7%) reside in sub-Saharan Africa, according to World Bank (2016) data. Asia, on the other hand, has 42.7% of the world's poor, despite the region's overall strong track record of reducing overall poverty due to rapid growth in developing large economies. The next highest percentage of the world's poor (4.4%) is found

in Latin America and the Caribbean. Extreme poverty reduction appears to be uneven in various locations due to geographical and country-specific reasons. The current severe income inequality poses a significant danger to economic progress and is responsible for the slowing of poverty reduction in developing regions.

The effect of financial inclusion on the decrease of poverty is covered in this review study. The review's goals were achieved with the use of secondary data that was gathered using the Google Scholar search engine. The following are some ways that our review paper adds to the body of literature. First, by offering a current overview of previous studies about the contribution of financial inclusion to poverty, our work adds to the body of knowledge in the field of economics. Other than that, the review paper adds to the economic literature that analyzes the possible tool to reduce poverty which is financial inclusion. Finally, from data gathered (World Bank database) our paper contributes into the literature to explain the role of financial inclusion in reducing poverty specifically in Malaysia. As most from previous literature by showing that financial inclusion may influence poverty reduction in certain countries, regions, and economies.

This is how the remainder of the paper is organized. The method used for choosing the articles to be included in this study is presented in Section 2. While, in Section 3 covers exiting literature review regarding financial inclusion and covers how financial inclusion is a mechanism to reduce poverty. Section 4 is a discussion section covers an overview about financial inclusion in Malaysia. Section 5 concludes and provides a recommendation related to this presence study.

2.0 Methodology

This is a conceptual paper that reviews the previous literature studied on the financial inclusion as a tool to reduce poverty. To find pertinent research publications on the contribution of financial inclusion to the decrease of poverty, the Google Scholar search engine was utilized. The Google Scholar database is used since it is the largest search engine in the world and includes full text or metadata from academic research in a wide range of subjects.

This presence study also utilizes a secondary data from World bank database to obtain statistical report on the financial inclusion data in Malaysia. Due to the multifaceted nature of financial inclusion, this study depends on the availability and use of banking services. The quantity of automated machines (ATMs) and bank branches in Malaysia is the basis for measuring availability. Where to measure the usage this presence study adopts number of outstanding deposit and number of outstanding loans with commercial bank in Malaysia. Due to limitation of data this presence study covers only availability and usage as the dimension of financial inclusion. Also, data that is available to report in this study only covers the range of the years between 2005 to 2022.

3.0 Literature Review

3.1 Financial Inclusion

One of the main concerns of some of the major international economic regulators at the present time is financial inclusion. According to the World Bank (2014), financial inclusion is the percentage of households and enterprises that use financial services. According to Sahay et al. (2015), the International Monetary Fund (IMF) characterizes it as the utilization and availability of financial services at a reasonable cost for the most vulnerable groups in the

community. According to academics, financial inclusion occurs when no one is denied access to essential financial services due to efficiency concerns (Mialou et al., 2017). According to Hannig and Jansen (2010), giving unbanked people accessibility to the monetary system's services is the key objective of financial inclusion.

According to their level of complexities, others describe financial inclusion using the following lenses: impact, usage, quality, and accessibility (Hannig & Jansen, 2010). The capacity to utilize financial services and products offered by official entities, such bank branches and ATMs, is known as access. By measuring the number of open accounts across financial institutions and estimating the percentage of the population that has an account, one can develop a very basic proxy for access. Second is quality. Quality includes the consumer's experience as shown in their attitudes and thoughts about the things they can currently purchase. As a result, the quality metric would be used to assess the type and extent of the customer-financial service provider connection, as well as the choices offered and the degree to which customers comprehend them and their qualifications. Usage comes in third. The durability and depth of financial service and product use are the main factors that influence usage. Therefore, further information regarding consistency, frequency, and length of use overtime is needed to determine usage. Finally, the impact. The impact assessing the alterations in consumers' lives that are related to the use of a financial product or service presents significant methodological difficulties for survey designers.

According to Amidžic et al. (2014) created a composite financial inclusion index by incorporating usage (depositors and borrowers) and outreach (geographic and demographic penetration) dimensions. After normalizing each variable and weighting the variables and sub-indices, they employed factor analyses to statistically determine each dimension. Finally, they aggregated the data using a weighted geometric average. Financial inclusion, according to Sarma (2008), is the process that guarantees that everyone in an economy may easily access, be available, and use the formal system of finance. Along with this Sarma (2012) also recommended a financial inclusion index. By combining the dimensions of accessibility, availability, and usage, she creates a multidimensional index of financial inclusion that is comparable across national boundaries and throughout time periods and meets certain essential mathematical criteria. For each dimension, she calculated a dimension index before calculating a simple average. Recently Fouejieu et al. (2020) financial inclusion defined as the access and use of formal financial services to all, including that most vulnerable. For this study purposes, we adopted Sarma's approach in defining financial inclusion including two dimensions which is availability and usage.

3.2 Cause of Poverty

Poverty is a worldwide issue that includes not just financial difficulties but also restricted access to possibilities for better living conditions and essentials. Divergent ideas and perspectives exist among the economists regarding poverty. Inflation serves as a trigger for the extreme state of poverty, which is characterized by a lack of access to the necessities of life (Gul et al., 2022). The primary objective of the Sustainable Development Goals (SDGs) is to eradicate severe poverty. In order to guarantee a healthy life for all people by 2030, the United Nations (UN) established 17 targets under the Sustainable Development targets (SDGs) (Leal Filho et al., 2021).

Poverty is a complex, multidimensional phenomenon. But the UN defines poverty as an extreme or severe lack of fundamental economic resources, and this is what is referred to as

extreme destitution (Jafari et al., 2022; Gul et al., 2020). There is a belief that there is a strong correlation between inflation and poverty. Poverty is greatly impacted by inflation. Any economy may become helpless due to a rapid price increase, which would lead to socioeconomic issues. However, while inflation by itself does not directly create poverty, its effects on purchasing power, income, and financial wellness can all lead to higher rates of poverty, especially for those who are less fortunate and low-income (Khan et al., 2023). Efficient fiscal and economic policies can be vital in controlling inflation and lessening its effects on poverty.

In addition, conventional theories of international trading indicate that trade fosters economic expansion by opening up new markets, raising productivity, and introducing modern technologies. Furthermore, the theories contend that growing exports benefit emerging economies that have a surplus of labor because they raise both demand and low-skilled worker pay. Because of their low pay and scarcity of work options, unskilled laborers are more likely to live in very poor conditions. As a result, the economic circumstances for unskilled and semi-skilled labor improve when exports rise. Previous research provides evidence for it. For example, according to Dollar and Kraay (2004), who studied developing economies using data from the post-1980 era, there has been a decline in absolute poverty during the past 20 years as per capita income has increased due to trade expansion.

Neaime and Gaysset (2018) found that while researching how financial inclusion affects poverty and income inequality, financial freedom as well as integration also have an impact on monetary stability in eight MENA nations. According to the empirical findings, financial inclusion reduces inequality but has little to no impact on poverty. They came to the conclusion that population increase and inflation had an impact on poverty. In the MENA region, population growth and inflation exacerbate poverty and inequality. Additionally, they note that recent financial and debt crises have demonstrated that MENA financial inclusion and liberalization can sometimes not be beneficial to the fight against poverty.

However, recent empirical research demonstrates that by granting access to formal financial services, financial inclusion lowers poverty, fosters income equality, and accelerates and more inclusive macroeconomic growth in emerging nations. Following Sarma's distance-based multidimensional approach (2012), Omar and Inaba (2020) created a new composite financial inclusion index utilizing the penetration, availability, and usage dimensions of financial inclusion. In a study they conducted using unbalanced annual panel data for 116 developing nations between 2004 and 2016, they found that greater financial inclusion dramatically lowers poverty and income inequality in these nations. Furthermore, Arora (2012) proposed that in order to increase financial inclusion, steps toward enhancing educational characteristics should be made concurrently. It is acknowledged that nations with higher levels of education and, consequently, greater financial inclusion see a quicker decline in poverty rates.

Financial inclusion has been receiving a lot of attention lately and elevated the global reform agenda as a result of the realization that it has the ability to break the cycle of poverty and lessen economic inequality. Financial inclusion is gaining increased attention because to its possibly groundbreaking power to accelerate inclusive growth, as the actual world's financial systems are far from inclusive.

3.3 Financial Inclusion Towards Reducing Poverty

Financial inclusion directly contributes to the decrease of poverty by expanding access to credit, insurance, and other financial services, which provide ways to meet regular demands for investment, consumption, and overall economic growth (King & Levine, 1993; Rajan & Zingales, 1998). Similarly, improved financial inclusion has the potential to increase beneficiaries' entrepreneurial opportunities, which in turn increases their income, consumption, degree of independence, and involvement in family and community decision-making (Demirgüç-Kunt et al., 2008). Jalilian and Kirkpatrick (2002) carrying out a cross-country analysis. Their research among low-income nations leads them to the conclusion that financial inclusion can bolster the productive assets of the impoverished by allowing them to make investments in new technology, health, and education. The poor's ability to establish sustainable livelihoods is increased by these strategies (World Bank, 2001).

The theories of finance and growth stimulation developed by Schumpeter and Opie (1934) and McKinnon (1973) serve as the foundation for the indirect channel. The indirect channel describes how the creation of jobs and higher government spending on social programs like health, education, and social protection help the poor over time as a result of finance-induced economic expansion (Abosedra et al., 2016; Perotti, 1993). On the other hand, excessive use of advanced financial goods (such credit cards, ATMs, and online banking) that facilitate transactions can lead to excessive debt and other financial problems, which ultimately lead to poverty (Lyons & Hunt, 2003).

Park and Mercado (2018) developed a new financial inclusion index for 151 economies and assessed the cross-national effects of financial inclusion upon poverty and income inequality across national income categories using principal component analysis utilizing a cross-sectional methodology. The results indicate a strong relationship between reduced rates of poverty and economic growth and increased financial inclusion, but only in high- and middle-income nations—not in middle-low or low-income economies. However, they found no evidence of a substantial impact of financial inclusion on income disparity in any income category.

Jabir et al. (2017) investigated the impact of financial inclusion on poverty reduction among households with low incomes in 35 economies located in Sub-Saharan Africa (SSA). They found that financial inclusion significantly reduced the rate of poverty in SSA by providing individuals in poverty with higher welfare payments and net income, based on cross-sectional data from 2011. Burgess and Pande (2005) found that by providing access to formal sector credit and saving opportunities state-led bank branch expansions into rural, unbanked areas considerably decreased rural poverty in India. According to Brune et al. (2011), the well-being of impoverished smallholder cash-crop farmers in Malawi was significantly improved by providing them with commitment savings accounts, which enhanced their financial access.

Moreover, numerous researchers have discussed the advantages of financial inclusion in Ghana (Koomson et al., 2020), Mexico (Bruhn & Love, 2014), and the MENA nations (Neaime & Gaysset, 2018). An expanding access to finance to low-income individuals can have a sizeable positive effect on economic activity in Mexico (Bruhn & Love, 2014). They conclude that Banco Azteca helped informal business owners keep their business running instead of becoming wage earners or not employed. Other than that, Koomson et al. (2020) conduct a study among Ghanaian households. They discovered that there are two ways that an upward trend in financial inclusion affects household poverty. Firstly, it is linked to a 27% decrease in the chance of poverty for households. Secondly, it minimizes a household's future exposure to 28% poverty.

On the other hand, according to Neaime and Gaysset (2018), a study covered a large sample of eight MENA countries over the period 2002-2015 shows that financial inclusion has no effects on poverty, whereas population, inflation, and trade openness are all found to significantly increase poverty. Them indicates that financial integration is a contributing factor to financial instability in MENA, financial inclusion contributes positively to financial stability. Thus, this raised an interest to study on the impact of financial inclusion including availability and usage of banking services towards poverty rate in Malaysia.

4.0 Discussion

4.1 Measuring Financial Inclusion

Financial inclusion can be defined in a variety of ways. According to Sarma and Pais (2011) financial inclusion refers to a procedure that guarantees that all members of an economy have easy access to and use of the official financial system. According to Sarma (2008) she defines financial inclusion as the main dimension which is penetration, availability and usage. Her unique technique by computing an index of financial inclusion is based on the three dimensions. However, in this presence study we only adopt two dimensions of financial inclusion as named by Sarma (2008) that is availability and usage.

In this section first we explore the financial inclusion indicators focusing on availability of bank services in Malaysia. Availability is measured by the number of banks branchers and number of ATMs per 1,000 populations (Sarma, 2008). Second, we adopt from Sarma on the usage definition. According to her, the usage of financial services is measured by the number of loans per 1,000 people. Thus, in this present study the use of financial inclusion elements is summarized as follows in Table 4.1.

Table 4.1: Summarizing the Proxies and Elements of Financial Inclusion

Dimensions	Elements
Availability	Number of bank branches per 100,000 adults
	Number of ATMs per 100,000 adults
Usage	Number of outstanding deposits with commercial banks
	Number of outstanding loans from commercial banks

4.2 Financial Inclusion in Malaysia

Five tactics have been put into practice since the “financial inclusion blueprint ideas” were introduced in December 2011. First is the regulatory framework for agent banking. Its objectives are to create a safe, long-lasting environment for agent banking without sacrificing consumer safety. Mobile banking platform comes in second. The “My Mobile” platform, which started as a prototype in February 2012, enables financial services to be accessed on all phones, including those without internet connectivity. Third is financial inclusion program of the Asian Institute of Finance (AIF). In order to give microfinance practitioners in the area access to top-notch leadership and technical training, AIF started a financial inclusion leadership program in 2012. The creation of a financial inclusion index and a monitoring mechanism with KPIs make up the fourth section. Fifth, provides financial services advise to Malaysian semi-urban and rural communities. From Table 4.1 presented the growth of Malaysia's financial sector over the last ten years based on financial inclusion indicators.

Table 4.1: Key Indicators of Financial Inclusion in Malaysia

Indicators/ Elements	2011	2021	Changes (%)
No. of bank branches	3143	2986	-5.26
No. of ATMs	11165	8695	-28.41
No. of deposit account per 10,000 adults	29860	30698	2.73
No. of internet banking penetration	8681883.9	30467074	71.50

Sources: Bank Negara Malaysia (2024)

As shown in Table 4.1 the number of bank branches decreases by about 5.26 percent as compared between 2011 to 2021. In the year 2011 the number of bank branches is 3143 whereas in 2021 it is only about 2986 branches. Same with the trend of financial institutions in offering ATM services to people. There is a drop in the number of ATMs machines around 28.41 percent. As in the year 2011 the number of ATMs machines is 11165 whereas the number of 2021 is only 8695. Clockwise, there is an increase in the number of deposit accounts among Malaysian adults. Table 4 shows there is an increase in the number of deposits accounts between 2011 to 2021. The increase of the deposit accounts usage is about 2.73 percent. Parallel with that, the number of internet banking penetrations also show an increasing trend from the year 2011 to 2021. The increment is around 71.5 percent on the usage of internet banking. This indicates that consumers are currently moving in utilizing internet banking services instead of physically visiting any nearest banking services. This is a signal where consumers demand more towards online banking services as compared to using banking services physically. This is a common trend after people struggling with Covid-19 pandemic and lots of people moving towards digitalization. However, as providers of the financial services banking institutions are still encouraged to provide more services in every branch and ATM so that no one that left behinds.

4.2.1 Availability

This presence study was conducted to give an overview of financial inclusion in Malaysia. From Figure 4.2.1 it is found that the number of ATMs showing an increasing trend from the year 2005 to 2016, meanwhile it is found that ATMs number slowly drops from the year 2020 to 2022. Same scenario with number of bank branches recorded in Malaysia. It shows a negative trend that reflect number of banks branchers in Malaysia keep reducing in number from the year 2005 to 2022 on overall. The serious drop in number of bank branches highlighted from the year 2020 to 2022 same with major drop of ATMs numbers that offers to Malaysian.

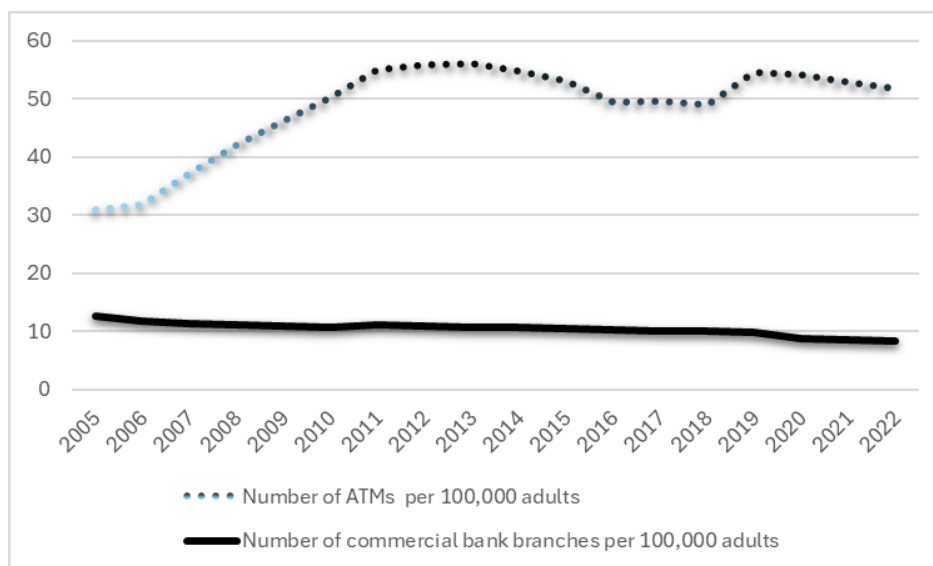


Figure 4.2.1: Number of Bank Branches and ATMs in Malaysia

Sources: Authors' Analysis

From previous literature based on cross-country data analysis, it is no doubtful to claim that financial inclusion as a tool in poverty reduction. According to a prior study by Jabir et al. (2017), financial inclusion was able to lower the poverty rate in SSA by giving the poor greater welfare benefits and net wealth. Additionally, Jalilian and Kirkpatrick (2002), who carried out a cross-country investigation, concluded that financial inclusion could increase the productive assets of the underprivileged by allowing them to make investments in new technologies, healthcare, and education. This also supported by study conducted from Park and Mercado (2018). Other researchers who conducted a specific country analysis including a country like in India-(Burgess & Pande, 2005), Malawi-(Brune et al., 2011), Mexico-(Bruhn & Love, 2014) and Ghana-(Koomson et al., 2020) by stressing on the role FI in reducing poverty and income dispersity.

Referring to the current statistic there is a signal where the government and policy makers should take an action to maintain the number of ATMs and bank branches offered in Malaysia. Even, we realised that now people are moving towards technology utilizing internet in do their daily transactions but, at the same time we cannot deny the role of availability of ATMs and bank branches. These two facilities still play their crucial role in developing economies especially Malaysia. It is to ensure Malaysia economies able achieve zero poverty target by the year 2030 on what SDGs target targeting on. Due to these financial institutions in Malaysia should maintain number of ATMs and number of branches in ensuring community are easy to get access with all facilities offered. So that to ensure no one in Malaysia are left behind especially those who live in rural areas. Other than that large number of branches can be a tool to increase financial literacy to people through their employees. It is believing that financial institution employees may deliver an information and financial knowledge easily to community when they are located lots in Malaysia especially rural area.

4.2.2 Usage

Next, moving to the second dimension which is usage, Sarma (2008) highlight usage is translated as the number of loans per 1,000 people. From the data that available we adopt number of outstanding deposits with commercial banks and number of outstanding loans from commercial banks in Malaysia.

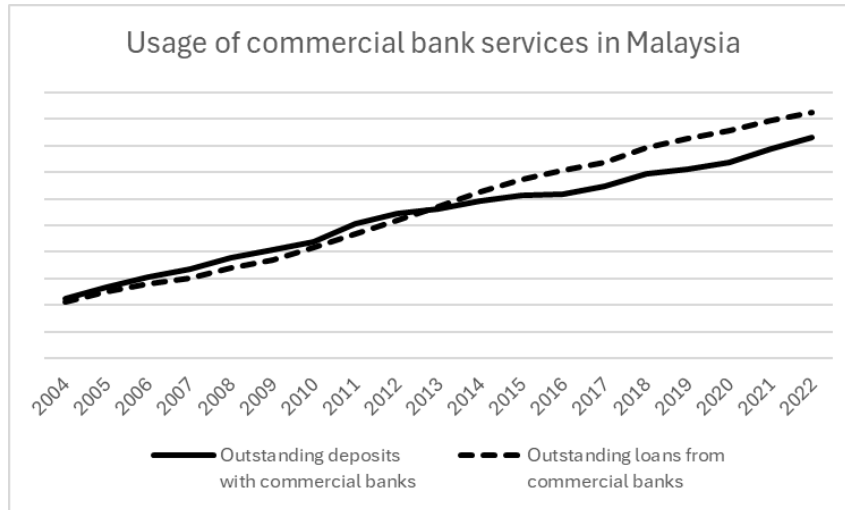


Figure 4.2.2: Usage Of Commercial Bank Services in Malaysia

Source: Authors' analysis

From Figure 4.2.2 we conclude that usage of commercial bank services in Malaysia showing an increasing trend from the year 2004 to the year 2022. This means that Malaysian are really use and engage with formal financial services that offered to them. This reflects the number of banked people that utilize banking services is increasing. Therefore, it is a good signal to Malaysia financial institution industry that their products and services has a good demand from the Malaysian customers.

4.3 Financial Inclusion Impacts Towards Poverty Rate in Malaysia

4.3.1 Availability Measured by Number of ATMs

After there is an effort to highlight the current trend on availability and usage of financial services in Malaysia, we tried to study the relationship between financial inclusion and poverty rate in Malaysia. Poverty is measured by poverty headcount ratio at \$3.65 a day (2017 PPP) as % of population. Whereas financial inclusion is measured by number of ATMs in Malaysia. The data that we presented is illustrated in Figure 4.3.1. Data are only covered on certain selected years including 2006, 2008, 2011, 2013, 2015, 2018, and 2021. This is due to the availability of data that is not balance between the two variables. However, still we able to demonstrate a negative relationship between financial inclusion and poverty rate. It shows a negative relationship between both variables. Meaning that FI able to become a catalyst to mitigate poverty in Malaysia.

This is parallel with the previous findings. Scholars who study on the specific country highlight that financial inclusion is a tool towards poverty reduction effort (Burgess & Pande, 2005; Brune et al., 2011; Bruhn & Love, 2014; Koomson et al., 2020). Koomson et al. (2020) have reported recent findings based on data gathered from the 7th round of the Ghana Living Standards Survey conducted in 2016 and 2017. They conclude that financial inclusion lessens poverty and poverty-related vulnerability more in rural than in urban regions. They suggest that for the private sector to develop and provide financial services to more remote locations, another is governments should create or improve rules that support this.

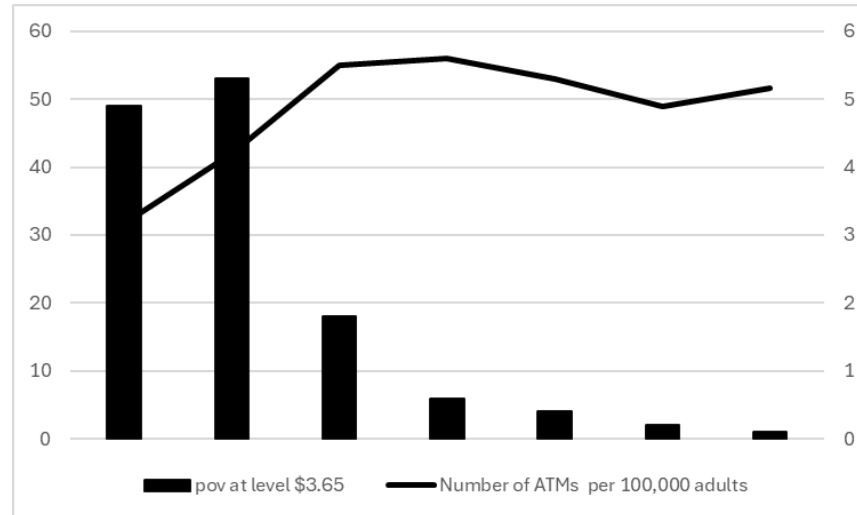


Figure 4.3.1: Poverty Rate in And Number of ATMs in Malaysia (Selected Year From 2006 To 2021)

Source: Authors' analysis

Therefor it is good for financial institutions in Malaysia especially commercial bank to offers lots of affordable products and services to Malaysian especially those who categories under B40 income earners. Commercial bank might offer an affordable loan for small business as a capital in term of business start-up or to for the purpose sustain the business. This indirectly will create individual not as job seekers but, they are job creators. Through this effort it will offers job opportunity and reduce unemployment in economy. Finally, will bring a positive impact towards poverty reduction effort in Malaysia.

4.3.2 Usage Measured by Number of Outstanding Deposits with Commercial Bank

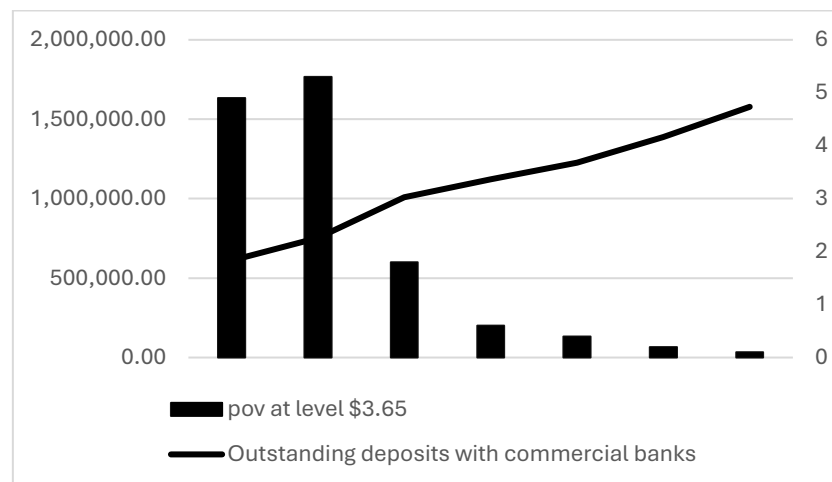


Figure 4.3.2: Poverty Rate and Number of Outstanding Deposits with Commercial Bank in Malaysia (Selected Year From 2006-2021)

Source: Authors' analysis

Moving to the second dimension which is usage as shown in Figure 4.3.2 there is also a negative relationship between both variable (poverty at level \$3.65 and number outstanding deposits with commercial banks). This double confirm that financial inclusion (number of outstanding deposits with commercial banks in Malaysia) are able to become a catalyst to

eradicate poverty. There is no doubtfull to claim that poverty reduction is rely on fiancial inclusion rate in a way to reduce it. This results are consistant with the previous empirical studies (Burgess & Pande, 2005; Brune et al., 2011; Bruhn & Love, 2014; Koomson et al., 2020). As according to Bruhn and Love (2014) by expanding finance to low-income individuals can have a sizeable positive effect on economic activity. They claim that in Mexico through Banco Azteca helped informal business owners keep their business running instead of becoming wage earners or not employed. They mention the increases in informal business ownership and employment led in turn to an increase in income of about 7 percent on average.

5.0 Conclusions and Recommendations

This presence study demonstrates that researchers' intentions in financial inclusion research have grown in response to poverty in recent years. For instance, plight signifies poverty in that the poor's tough circumstance is likely caused by a number of economic and personal causes in which change is inhibited by a variety of challenges and limits. To current the role of financial inclusion addressed inclusive to curb poverty worldwide especially developing economies like India, Malawi and Ghana (Burgess & Pande, 2005; Brune et al., 2011; Koomson et al., 2020). Based on regional studies (Jabir et al., 2017; Jalilian & Kirkpatrick, 2002), financial inclusion has been proven to curb poverty. Thus, this presence study made an overview on how financial inclusion able to reduce poverty in Malaysia as based on published data from World Bank database. It is concluded that financial inclusion represented by availability of ATMs and number of outstanding deposit accounts with commercial bank able to reduce poverty rate in Malaysia. As there is a negative relationship with all variables.

First, it is recommended that governments raise the levels of financial inclusion by allocating greater funds to strengthen the institutional and regulatory frameworks that encourage access to and use of the financial system. To improve the financial services network in both rural and urban areas, governments in the first-place central financial institutions, banks, as well as development partners should work together to expand the financial services infrastructure. Second, policymakers are urged to provide the economic conditions required for financial institutions to function and extend their services to further distant regions. An increase in services like these improves the availability of additional financial inclusion supply-side indicators, which in turn encourages an increase in demand-side indicators. The present and future risk of poverty will probably go down with the expansion of services to shorten the distance to banks. Third, in order to improve financial literacy and alter the financial behaviors of low-income communities, a specific, time-bound policy aimed at raising financial literacy in rural and remote locations is required. Higher percentages of inactive accounts are not, in and of themselves, improving financial inclusion; rather, supportive measures such as the transfer of government subsidies to accountholders for the efficient use of dormant accounts should be added to efforts. In conclusion, Malaysia, being a growing nation, has to keep raising the income of each person and expanding information availability to reduce the unintentional financial exclusion of significant portions of the population.

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PERCEPTIONS OF THE MODIFIED SIN TAX LAW AMONG EMPLOYEES OF GOVERNMENT-OWNED AND/OR CONTROLLED CORPORATIONS IN MARAWI CITY: A STUDY ON AWARENESS, SOCIODEMOGRAPHIC FACTORS, AND POLICY IMPLICATIONS

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Abstract: *Purpose: This study investigates the knowledge and views of employees at selected Government-Owned and/or Controlled Corporations (GOCCs) in Marawi City about the benefits and drawbacks of the modified Sin Taxation Law. The study aims to better understand how socioeconomic factors influence knowledge levels and perceptions, as well as to make policy recommendations.*

Methodology: The study used a quantitative, descriptive survey approach, including 180 employees from chosen GOCCs and ten key informants for validation. A survey questionnaire designed by the researcher was used to collect primary data. Descriptive statistics (frequency count, percentage distribution, and mode) and Spearman's rank correlation coefficient were employed to investigate the relationship between socio-demographic profiles, knowledge levels, and legal perceptions.

Findings: Respondents demonstrated a high level of understanding about the modified Sin Tax Law, indicating widespread public awareness. Opinions on its benefits (e.g., public health funding) and drawbacks (e.g., perceived injustice) differed, but were supported and validated by key informants. Statistical research found a strong correlation between socio-demographic profiles and knowledge levels ($p < 0.05$), but no significant relationship with opinions of the law's benefits and drawbacks ($p > 0.05$). A substantial correlation was found between knowledge levels and perceptions ($p < 0.05$).

Limitations: This study was limited to the concept that the select GOCCs are only a subject of the study in determining the knowledge and perception of sin taxation law. And, it is limited to the complete enumeration of the employees of the three select GOCC, a total of one hundred Eighty (180).

Contribution: The study emphasizes the need for further local regulations to reinforce the implementation of the modified Sin Tax Law, particularly against the sale of sin products to minors. It sheds light on policy awareness and its relationship with socio-demographic characteristics, adding to debates about governance, taxation, and public health.

Keywords: *Sin Tax Law, Public Policy, Gocc Personnel, Socio-Demographic Characteristics, Taxation Policies, Marawi City, Public Health Governance*

Introduction

The modified Sin Taxation Law of Republic Act 11467 was signed into law on January 22, 2020, increasing the excise taxes levied on sin products. These taxes can consistently raise

large sums of money for community projects such as parks, improved roads, health care, and education. This modified Sin taxes sought to address the issue of government income shortfall and augment the budget for health care problems, notably the Universal Health Care Act (UHCA), which provides free health care benefits to senior citizens and impoverished Filipinos. As a result, as time passes, the social welfare of young people is jeopardized because their purchasing power has increased, and the previous sin taxation law Republic Act 10351 of 2012 was already ineffective in preventing youth from engaging with these sin products and became ineffective in reducing most people's consumption (DOH Usec. Domingo, 2019).

Consequently, there are those who oppose sin taxes and contend that those in poverty are more outraged by them than those in prosperity. (lockwood, 2017). However, it has been seen that people from all walks of life, regardless of their financial situation, have engaged in sin items, as it has become an irrepressible part of desire. It is possible that the majority of Filipinos who consume sin items, particularly cigarettes and alcohol, are commoners or poor. This updated law was deemed unacceptable by the church and other religious groups since it continues to allow people to engage in vices that are prohibited by most religions. (Taubinski, 2017). According to Khayat (2000), Islam either openly prohibited smoking or thought it so repugnant that it had to be abolished. According to Marcus (2002), Christianity plainly states that one's faith must be open and free of doubt.

Moreover, the respiratory disease COVID 19 is related to diseases that are caused by smoking using tobacco products and E-cigarettes; it is most likely that with this Sin taxation amendment, we could at the same time prevent diseases that would worsen a COVID 19 case (World Health Organization, 2020) states that "smokers have a higher risk of developing a serious COVID-19 infection. Using a water pipe can raise your risk of contracting COVID-19. "Tobacco products, heated tobacco products, and e-cigarettes are harmful to your health and harm those who breathe in the smoke around you." Additionally, "15 Eastern Mediterranean countries bravely decided to temporarily ban water pipe consumption in public places after the COVID-19 pandemic swept the globe, adding to the two countries that had already done so, bringing the total number of countries that have done so to 17" (World Health Organization, 2020).

The three GOCCs (Government-Owned and/or Controlled Corporations) where this study was carried out were Marawi City Water District (MCWD), Marawi Resorts Hotel Inc. (MRHI), and PhilHealth Marawi-Local Health Insurance Office in Marawi City. These particular GOCCs' operations are closely tied to the Sin Taxation for the following reasons: PhilHealth addressed health issues, and the government hospitals are currently paying for the drugs of COVID-19 patients.

Furthermore, PhilHealth is affiliated with the Department of Health, a department that receives funds from the excise fees collected from the sin tax. Moreover, research indicates that in 2014, 13.6% of adult females and 16.7% of adult males smoked at the Ayala Marawi Resorts Hotel, a company with a predominantly male workforce. King BA, Husten CG, Agaku IT, et al. (2014). As everyone knows, the Ayala Marawi Resorts Hotel offers a variety of social events along with sweetened beverages, tobacco, and other sinful goods. The researcher wants to know how certain government-owned and/or controlled corporations feel about the amended sin taxation because the Marawi City Water District (MCWD) is a revenue-generating organization whose objective is to increase government revenue through Republic Act 11467.

Literature Review

The Salient Feature of R.A. 11467 (Amended Sin Tax Law 2020)

Sin Tax is a colloquial name for an excise tax rather than a technical term in economics. Additionally, excise taxes are a distinct tax imposed on goods and services that are costly or harmful to society. Additionally, because the goods and services usually involve gambling, alcohol, cigarettes, and sugar-filled beverages. Joel (2019). In this study, the word "sin taxation" refers to the taxes collected. Moreover, with the passage of Republic Act 11467, excise taxes on alcohol products, electronic cigarettes, and heated tobacco products (HTPs) were increased. Excise tax revenue, which is obtained from the sale of sin products, is allocated to the implementation of the Universal Health Care (UHC) Act of 2019, the Sustainable Development Goals (SDGs), the Health Facilities Enhancement Program, and, respectively, 60%, 20%, and 20% of national medical assistance (pna.gov.ph, 2020).

"This law will make it possible for a more prosperous and sustainable future, as well as for Filipinos to live long lives and in a healthy environment with a good healthcare system," said Socioeconomic Planning Secretary Ernesto Pernia. The R.A. By providing funds for various projects and activities, 11467 supports the National Economic and Development Authority's (NEDA) 2030 Agenda for Sustainable Development, particularly for Goal 3: Good Health and Well-Being. President Rodrigo R. Duterte commended "the wisdom of Congress in acknowledging the country's unchecked production, distribution, consumption, and proliferation of vapor goods and HTPs" in his agreement with the House of Representatives and Senate on January 22, 2020 (neda.gov.ph, 2020).

Sin Tax and The Government

Important components of the Sin Tax Law (STL) include the distribution of revenue to tobacco-growing regions and national government health programs. Through a greater number of national health programs, this law gives the government financial support throughout this pandemic. As a result, STL income are distributed through the yearly budgeting process, which runs concurrently with the overall budgets of the government agencies. Additionally, it contributes to the attainment of universal health coverage through investments in healthcare facilities, expansions of health insurance coverage, and supplemental health programs, as well as enhanced accountability, transparency protocols, and targeting. (Caryn Bredenkamp, Roberto Iglesias, and Kai Kaiser, 2016).

The Department of Health no longer oversees the National Health Insurance Program component; instead, the Philippines Health Insurance Corporation, also called PhilHealth, is a government-owned and/or controlled corporation. The poorest 40% of the population, who now pay a premium or subsidy of P2,400, or \$55, per family, can now obtain free health insurance thanks to PhilHealth. Crucially, beneficiaries are identified using the National Household Targeting Survey for Poverty Reduction (NHTSPR), an aiming list originally developed for the government's conditional cash distribution program. This substitutes the practice of directing the needy at the discretion of local governments with a national entitlement and explicit targeting.

Furthermore, taxes are arguably the most economically significant aspect of the interaction between the government and its citizens, according to Michael Thom (2017), who claims that taxes are an unavoidable part of existence.

The Signing of The Amended Sin Tax Law

The National Internal Revenue Code of 1997, usually referred to as RA 8424, was revised with the signing of RA 11467. The court order requirement R.A. provision was not removed by President Duterte. 11467, however the bicameral conference committee's authorized version of the law stipulated that internal revenue officers could only raid a residence, building, or other location with a court's permission. Duterte vetoed Section 5 of RA 11467, which mandated that the Bureau of Internal Revenue investigate facilities for the storage of alcohol and tobacco products following a court order. In his veto message, the President said that this wording "limits the search and seizure capabilities" of the BIR. Additionally, Pres. In line with the BIR's obligation to fight illicit trade, Duterte claims that the clause restricts both the state's and the agency's capacity to collect taxes and carry out searches and seizures. The President added that other taxable products are not subject to this restriction. Although the law was signed on January 22, 2020, Mr. Dominguez stated that the BIR will begin implementing the new law with new rates for e-cigarettes and alcohol on January 1, 2020. Tadalán, Charmaine A. (2020). Moreover, Aika Rey (2020) reports that President Rodrigo Duterte signed a bill that will raise taxes on e-cigarettes and alcohol. Increased alcohol-related sin taxes and tariffs based on Republic Act No. 11467 will be the outcome of its adoption. Nonetheless, the Department of Health (DOH) claims in an article titled "Tax Implications of Republic Act Nos. 11346 and 11467, Vol. According to the DOF (Department of Finance) letter, RA 11467 was published in print on the Official Gazette's February 10, 2020 edition after being posted online on January 23, 2020 (XXXII, July to August 2020). Furthermore, it is legal for RA 11467 to be published on the Official Gazette website, and this will be the date when it becomes effective. This is due to the fact that no statute or doctrinal court ruling specifically declares that a statute's online publication by the Official Gazette is unlawful. On January 23, 2020, RA 11467 was published in the Official Gazette via its website, which is the platform designated for that purpose. In summary, the requirement for the disclosure of laws has been met.

Sin Tax Law 2012 Experience

Calleja (2014) of Philippine Daily Inquirer stated that Last November 2013 that the Sin Tax Law 2012 in the Philippines significantly reduced smoking rates, with fewer smokers becoming smokers. The primary cause of low physical activity was the absence of non-motorized transportation infrastructure. Despite tax increases, cigarette costs in the Philippines remained among the lowest in Southeast Asia and the world. The Department of Health (DOH) announced higher sin tax and stricter regulation of harmful products to build the foundation for universal health care. Taxation and recruitment are essential strategies for reducing tobacco consumption, and when implemented as part of a complete strategy for control and prevention, tobacco taxes and prices can be effective.

SDG (Sustainable Development Goals) As Recipients

According to Manasan, Rosario G. (2020), Republic Act 11467, signed into law on January 22, 2020, increases excise taxes on alcohol, e-cigarettes, and heated tobacco products (HTPs) to fund Universal Health Care (UHC), supplemental medical assistance, and support for local governments. 60% of the budget is allocated to RA 11223 (UHC Act of 2019), with 20% going towards achieving the SDGs. The Health Facilities Enhancement Program (HFEP) will allocate the remaining 20% for medical aid. The fund is expected to support all 17 SDGs by sponsoring projects and initiatives that further the 2030 Agenda for Sustainable Development. The SDGs for 2020 include ending poverty, achieving food security, ensuring health, inclusive education,

gender equality, modern energy, employment, infrastructure, and climate change. The President praised Congress's prudence in recognizing the unchecked growth, manufacture, distribution, and use of HTPs and vapor products in the country, and directed the FDA to develop a regulatory framework for prompt enforcement. The multi-tiered effect of the law as a cost-effective health measure supports the UHC Act and improves domestic resource mobilization.

Harmful Effects of Tobacco Products and Excessive Intake of Alcohol

According to an article from the World Health Organization (2021) entitled "Leading cause of death, illness and impoverishment" of World Health Organizations written on July 17, 2021, under Washington, DC, Institute of Health Metrics cited from their website, the tobacco epidemic is a major global public health issue, causing over 8 million deaths annually. Only 1.2 million deaths are due to secondhand smoke exposure, while over 7 million are directly linked to tobacco use. Tobacco products are hazardous, and there is no safe level of exposure. Cigarette smoking is the most common form, but waterpipe tobacco is unhealthy and highly addictive. Smokeless tobacco is highly addictive and raises the risk of dental diseases, cancers, and other health issues. Over 80% of tobacco users live in low- and middle-income countries, contributing to poverty and medical costs. Tobacco uses also contributes to economic losses and the hiring of young individuals from low-income households to work in the tobacco sector. Excessive alcohol use increases the risk of health problems, including elevated blood alcohol levels, risky sexual behaviors, drowning, car accidents, falls, violence, burns, and sexually transmitted diseases. Limiting alcohol use can help prevent these immediate and long-term health issues.

Religious Perspective on Tobacco Use

According to a program entitled "Know the truth" by the Tobacco-Free from World Health Organization's website, the World Health Organization emphasizes the importance of religion in addressing tobacco use in the Eastern Mediterranean Region. The WHO Tobacco Free Initiative program focuses on addressing tobacco use from a religious standpoint. The first edition of *The Right Path to Health: Health Education Through Religion: Islamic Law on Smoking* was released in 1996, and the Vatican adopted laws and regulations pertaining to smoking in 2002. Islam's precepts encourage better health care, hygiene, and avoidance of health risks. The World Health Organization advises against smoking during Eid, urging people to protect themselves and others. The Pope signed a law in 2002 forbidding smoking on Vatican grounds, with signs placed at appropriate locations and fines for infractions.

Tobacco Use Worsen Covid-19 Cases

According to WHO (World Health Organization's) website page entitled "Know the Truth" published by Tobacco Free Initiative, states that smoking and vaping raise the risk of developing a severe case of COVID-19, according to the WHO (World Health Organization) online page titled "Know the Truth," which was released by the Tobacco Free Initiative. Using water pipes can increase the risk of contracting COVID-19. E-cigarettes, tobacco products, and heated tobacco products are harmful to the health of those who inhale the smoke. Additionally, limiting the use of tobacco and e-cigarettes in public places is a public health policy to curb the global COVID-19 pandemic. The courageous decision to temporarily ban the use of water pipes in public areas was made by Eastern Mediterranean countries. Tobacco smoking

increases the risk of severe COVID-19 symptoms in those with compromised respiratory and cardiovascular systems.

Tobacco Use Among Youth

According to the Tobacco Free Initiative's "Know the Truth" page on the WHO (World Health Organization) website, the tobacco industry is increasingly targeting youth with its advertising. To ensure that the tobacco market will grow and that both quitting smokers and those who are dying off are replaced, tobacco products target potential smokers, especially young people. Furthermore, women and young people are using smokeless tobacco more frequently as a result of the tobacco industry's enhanced marketing of the product. It has not been regulated to the same extent as cigarettes, despite being highly addictive and harmful.

The Sin Tax Law Leveraged Existing Pro-Poor and Good Governance Reforms

A nationwide list of the poor from the government's conditional cash distribution program facilitated the quick expansion of health insurance to the lowest 40% of the population, according to Kai Kaiser, Caryn Bredenkamp, and Roberto Iglesias' 2016 book, *Sin Tax Reform in the Philippines: Transforming Public Finance, Health, and Governance for More Inclusive Development*. The choice to use the National Household Targeting Survey for Poverty Reduction instead of developing a new agency database served as a template for other government programs. In the Philippines, a more open list is currently in use. The STL experience shows that if modifications can build on existing systems, they are more robust and easier to deploy, even if they are only pilots. It is rare for a "stroke of the pen" to produce genuinely revolutionary advancements.

Questions In the Execution of The Sin Tax Law

In an interview with DOH Undersecretary Domingo from CNN Philippines' "Med Talk/Health Talk: Sin Tax 2" episode from 2019, Domingo explained that the Sin Tax is a lawful source of income derived from sinful products, such as alcohol and tobacco, which are the leading causes of death and disease in the nation. He explained that raising the price of sinful items is the most effective approach to reduce consumption and affordability. The revised Sin Taxation Law increased the excise duty on all sin products, which would help the impoverished by financing the Universal Health Act. Domingo also addressed criticism that the implementation of the Sin Tax targets the poor, as drinking and smoking are the only pastime that kills people, especially young people. He argued that raising the prices of sinful products would lead to improved health benefits and more protection for the most susceptible people, such as the very young and the extremely poor.

Regressive Sin Taxes

In their journal article titled "Regressive Sin Taxes, with an application to the Optimal Soda Tax," Hunt Allcott, Benjamin B. Lockwood, and Dmitry Taubinsky (2019) claim that the fact that "sin taxes" often disproportionately affect low-income consumers is a common critique of them as corrective taxes on goods that are thought to be overconsumed, such as alcohol, cigarettes, and sugary drinks. This paper explores the interplay between redistributive and corrective objectives within a broad framework for optimal taxation and offers experimentally feasible formulas for sufficient statistics for the ideal commodity tax.

Moreover, the ideal sin tax reduces income effects, which suggest that labor supply distortions are caused by commodities taxes, raises price elasticity of demand, enhances tax elasticity or bias of lower-income consumers, and lessens consumption concentration among the poor. Contrary to popular opinion, higher preferences for redeployment may improve the ideal sin tax if lower-income customers are more biased or vulnerable to taxes.

Advantages of Sin Taxes

Sin is taxed in several countries. The following statistics are commonly used by proponents of the sin tax to illustrate their advantages and disadvantages. Frank J. Chaloupka's study, "Effectiveness of Tax and Price Policies in Tobacco Control (2011)," discusses the benefits of alcohol and tobacco sin levies that deter substance use. When alcohol and cigarette usage decline, so do health issues linked to the use of dangerous substances. Additionally, his analysis shows that sin taxes provide the government with the money it needs to cover the costs of taxing harmful products. The government can, for example, use the money to subsidize healthcare in order to lessen the detrimental effects of the use of goods that are detrimental to society.

Disadvantages of Sin Taxes

In The Pew Charitable Trusts' Changing the World of Taxes (2016), Irene Asmundson, head economist of the California Department of Finance, was interviewed. According to her, while sin taxes may be beneficial in any economically developed nation, they are also backward. Because their financial obligations are larger than those of the wealthier classes, the poorest classes are the ones that suffer the most from sin taxes. This leads to illegal activities like smuggling and black-market operations that are a nuisance of sin taxes. She goes into great detail to illustrate that not all consumers are affected by variations in consumer behavior. Some consumers may quit using products as a result of sin fees, but others might not be inclined to alter their behavior.

Presentation, Analysis, And Interpretation of Findings

I. Profile Of the Respondents in Terms of Age, Sex, Civil Status, Religion, Ethnicity, And Monthly Income.

Table 1: Distribution of Respondents by Age

Age Category	Frequency	Percent
60 Above	23	12.8
40-49	21	11.7
30-39	77	42.8
20-29	59	32.8
Total	180	100.0

Source: (ABANTAS, 2022)

Particularly, the Table 1 showed a somewhat majority (77 or 42.8 %) respondents belong to age category of 30-39 years of age. Followed by 59 or 32.8% of respondents to an age category of 20-29 years of age. 21 or 11.7% less majority respondents were on age category of 40-49 while there were 23 or 12.8% respondents on age category of 60 years old above. These findings imply that age is not a discriminating factor in these three GOCCs.

Table 2: Distribution of Respondents by Gender

Sex	Frequency	Percentage
Male	100	55.6
Female	80	44.4
Total	180	100.0

Source: (ABANTAS, 2022)

Particularly, the Table 2 showed a majority (100 or 55.6%) respondents belong to male respondents and somewhat majority (80 or 44.4%) respondents belong to female respondents. Generally, the findings exposed that Male was the majority gender category of the completely enumerated respondents. These findings imply that males are most prone to smoking rather than females.

Table 3: Distribution of Respondents by Civil Status

Statement Indicators	Frequency	Percentage
Single	72	40.0
Married	98	54.4
Widow/ Separated	10	5.6
Total	180	100.0

Source: (ABANTAS, 2022)

The table 3 showed that out of (180) one hundred eighty respondents, the majority (98 or 54.4%) respondents were married. Somewhat majority (72 or 40%) were single and few (10 or 5.6%) were widow/ separated. This profile aspect of the respondents was very important in analyzing the responses in every study problem statement.

Table 4: Distribution of Respondents by Religion

Statement Indicator	Frequency	Percentage
Muslim	136	75.6
Non-Muslim	44	24.4
Total	180	100.0

Source: (ABANTAS, 2022)

The 4th Table's data revealed that out of one hundred eighty (180) total respondents, the majority (136 or 75.6) respondents were Muslim and only 44 or 24.2% were non-Muslim. Generally, the data revealed that the majority of the respondents were Muslim. These findings imply that the locale of this study was a Muslim community.

TABLE 5
DISTRIBUTION OF RESPONDENTS BY ETHNICITY

	Frequency	Percentage
Maranao	137	76.1
Non-Maranao	43	23.9
Total	180	100.0

Source: (ABANTAS, 2022)

The Table 5 revealed that out of one hundred eighty (180) total respondents, majority (137 or 76.1%) respondents were Maranaos; and 43 or 23.9% were non-Maranao respondents. Generally, the findings revealed that the select GOCCs in Marawi were dominated by Maranaos, this simply imply that the Muslim respondents were Maranaos, as revealed in Table 4.

Table 6: Distribution of Respondents by Monthly Income

Statement Indicator/Income	Frequency	Percentage
80,000 Php above	11	6.1
60,000 - 79,000 Php	3	1.7
40,000 - 59,000 Php	14	7.8
20,000 - 39,000 Php	72	40.0
Below 20,000 Php	80	44.4
Total	180	100.0

Source: (ABANTAS, 2022)

Particularly, Table 6 is somewhat majority (80 or 44.4%; 72 or 40%) respondents have an income of below 20,000 Php and 20,000-39, 000 Php respectively. Few (14 or 7.8%; 3 or 1.7%, 11 or 6.1% have an income of 40,000-59,000 Php; 60,000-79,000 Php; and 80,000 above Php respectively. Looking closely, it could be deduced, that most of the employees of these select GOCCs have a salary grade of 1 to 9 for an income below 20,000 Php and a salary grade of 10 to 17 for an income of 20,000 Php to 39,000 Php.

II. Level of Knowledge About the Ra 11467 (Amended Sin Tax Law).

Table 7: Mode And Distribution of Responses on Level of Knowledge

Indicators (Level of Knowledge on the Amended Sin Tax Law)	Responses (n=180)			Mode	Interpretation
	1	2	3		
S1 Update Sin Tax 2012	76	37	67	1	Low Knowledge
S2 Earmarked Tax Revenue	36	79	65	2	Moderate Knowledge
S3 Includes vapor products	47	63	70	3	High Knowledge
S4 Sin tax products are Alcohol, cigars, wines, vapor products and others	45	52	83	3	High Knowledge
S5 Distilled Alcohol 22% tax	61	66	53	2	Moderate Knowledge
S6 Wines excise tax of Php 50%	59	50	71	3	High knowledge
S7 Fermented liquor will increase by 6% from 2025 onwards	56	58	66	3	High Knowledge

S8 HTP increase by 5% from 2024 onwards	59	59	62	3	High Knowledge
S9 Vapor Products increase by 5% from 2024 Onwards	77	46	57	1	Low Knowledge
S10 Freebase or classic nicotine increase by 5% from 2023 onwards	65	60	55	1	Low Knowledge
S11 Selling tobacco and vapor products below 21years is prohibited	52	49	79	3	High Knowledge
S12 Sin Tax is regressive	53	47	80	3	High Knowledge
S13 RA11467 is the amended Sin Tax Law	55	42	83	3	High Knowledge
S14 Farmers worry on implementation of Sin Tax Law	59	49	72	3	High Knowledge
S15 Offender of Sin Tax Law if Not Citizen be deported	41	69	70	3	High Knowledge
S16 Religions forbid sin products	41	66	73	3	High Knowledge
S17 Increase government revenue	39	59	82	3	High Knowledge
S18 Higher excise Taxes	35	65	80	3	High Knowledge
S19 Affordable cigarettes on ASEAN	56	70	54	2	Moderate Knowledge
S20 Strategy to restrain use of tobacco products and increase tax revenue	32	68	80	3	High Knowledge

Source: (ABANTAS, 2022)

The foregoing findings revealed by the above Table 7 imply that Sin Tax Law is widely known, and it proves that almost all Filipino citizens were consumer of sin products regardless of their social standing in life.

II. Perception To Amended Sin Tax Law

As To Advantages

Table 8: Mode And Distribution of Perceptions in Terms of The Advantages of The Sin Tax Law

Indicators (Advantages of Sin Tax)	Responses					Mode	Interpretation
	5	4	3	2	1		
S1 Discourage the consumption	78	67	26	4	5	5	Strongly agree
S2 Sin Tax revenue provide government with funds for DOH	61	61	36	16	6	4	Agree
S3 Viable Option to increase revenue of the government	41	50	56	30	3	3	Undecided
S4 Fair and equal protection for UHC Act and DOH programs	36	62	55	19	8	4	Agree
S5 Solves the problem of youth's increasing capacity to purchase	51	62	40	21	6	4	Agree
S6 Strengthen the capacity of DOH for health care projects	41	74	50	10	5	4	Agree

S7 Increase from 15% to 20% earmarked for tobacco farmers and alcoholic drinks producers	27	72	62	16	3	4	Agree
S8 It is fair even if regressive	27	74	64	12	3	4	Agree
S9 Payment of excise tax on imported sin products is mandatory	36	70	60	9	5	4	Agree
S10 This law raises awareness	5	16	60	68	31	4	Agree

Source: (ABANTAS, 2022)

Legend: 1= “Strongly Disagree”, 2= “Disagree”, 3=“Undecided”, 4=“Agree”, 5=“Strongly agree”

The overall findings under Table 8 revealed that 8 out of the 10 indicators for this variable obtained mode with a coefficient rank of 4, interpreted as Agree. This means that the respondents of the MCWD, PHILHEALTH-LHIO, and MRHI perceived agreeably that the sin tax law is advantageous to the National Government and the Filipino people. The sin product's costs, fairness, solve, strengthen, and increase revenue, even as to benefits, payment of taxes that will increase tax revenue, and the awareness for health care will benefit the National Government and the Filipinos.

As To Disadvantages

Table 9: Mode And Distribution of Perceptions in Terms of Disadvantages of The Sin Tax Law

Indicators (Disadvantages of Sin Tax)	Responses					Mode	Interpretation
	5	4	3	2	1		
S11 Nature is regressive an anti- poor tax	34	54	57	25	10	3	Undecided
S12 Imposition result in illegal activities	31	85	50	9	5	4	Agree
S13 Do not affect equally the behavior of consumers	24	74	54	15	13	4	Agree
S14 Did not consider the increase of medical workers salaries	30	65	71	10	4	3	Undecided
S15 Decrease earmarked from 85% to 80% is unjustified	17	64	64	30	5	4	Agree
S16 Sweetend products allocates 50% on health	21	45	81	23	10	3	Undecided
S17 Violates freedom of choice	21	61	57	22	19	4	Agree
S18 BOC is not vigilant for control of black-marketed sin products	36	64	47	24	9	4	Agree
S19 Still Allows people to get sick	29	53	56	30	12	3	Undecided
S20 Poor people cannot avoid sin products excise tax.	21	61	60	23	15	4	Agree

Legend: 1= “Strongly Disagree”, 2=“Disagree”, 3=“Undecided”, 4=“Agree”, 5=“Strongly agree”

Source: (ABANTAS, 2022)

The finding under Table 9 is that majority of the respondents are more agreeable on the disadvantages of sin taxation.

IV. Correlation Between Socio-Demographic Profile and Level of Knowledge

H01 There is no significant relationship between the respondents' profile and their knowledge.

Table 10: Relationship Between the Socio-Demographic Profile and Level of Knowledge Towards the Amended Sin Tax Law Of 2020

Relationship		Correlation coefficient (r_{rho})	p-value	Remarks
Age	Level of Knowledge on the amended Sin Taxation	-.151	.044*	Significant
Sex		-.186	.012*	Significant
Civil Status		-.101	.176	Not significant
Religion		-.170	.023*	Significant
Ethnicity		-.202	.006*	Significant
Monthly Income		-.388	.000*	Significant

It means the null hypothesis is rejected at .05 level of significance

Source: (ABANTAS, 2022)

Interpretation:

To find a significant relationship between the profile of the respondents and their level of knowledge towards the amended Sin Tax law, the statistical test used was the spearman's rho correlation coefficient. It can be seen from Table 10 above, the results obtained for age is $r_{rho} = -.151$, $p < .05$, this implies that there is a significant relationship between the age of the respondents and their level of knowledge towards the amended Sin Tax law. Followed by sex, that disclosed $r_{rho} = -.186$, $p < .05$, which means significant. For civil status, the result is $r_{rho} = -.101$, $p > .05$, which implies further not significant. The remaining socio-demographic profile such as religion, the result is $r_{rho} = -.170$, $p < .05$, ethnicity $r_{rho} = -.202$, $p < .05$, and monthly income $r_{rho} = -.388$, $p < .05$ the result of correlation is significant. It means that they are respectively associated with the respondent's level of knowledge towards the amended Sin Tax law. Thus, the null hypothesis (H_{01}) presented above is rejected.

V. Correlation Between Socio-Demographic Profile and Perception as to Advantages and Disadvantages

H_{02} : There is no significant relationship between the profile of the respondents and their perceptions towards the amended Sin Taxation in terms of advantages and disadvantages.

Table 11: Relationship Between the Socio-Demographic Profile and Perceptions in Terms of Advantages and Disadvantages of The Amended Sin Tax Law of 2020

Relationship		Correlation coefficient (r_{rho})	p -value	Remarks
Age	Advantage of the amended Sin Taxation	-.160	.032	Significant
Sex		.116	.120	Not significant
Civil Status		.072	.338	Not significant
Religion		-.187	.012*	Significant
Ethnicity		-.176	.018*	Significant
Monthly Income		-.276	.000*	Significant

Relationship		Correlation coefficient (r_{rho})	p -value	Remarks
Age	The disadvantage of the amended Sin Taxation	-.062	.405	Not significant
Sex		-.003	.964	Not significant
Civil Status		-.128	.086	Not significant
Religion		-.061	.416	Not significant
Ethnicity		-.105	.161	Not significant
Monthly Income		-.229	.002*	Significant

It means the null hypothesis is rejected at .05 level of significance
Source: (ABANTAS, 2022)

Interpretation:

Therefore, the result of correlation varies between the socio-demographic profile and perception towards Sin Tax Law in terms of advantage and disadvantage. Furthermore, if both advantages and disadvantages are combined, it can be noted that the majority of their p -values are more than a .05 level of significance, thus, the null hypothesis (H_{02}) presented above is accepted.

VI Correlation Between Level of Knowledge of Respondents and Their Perception on Advantages and Disadvantages

H03 There is no significant relationship between the knowledge of the respondents and their perception towards the amended sin taxation in terms of advantage and disadvantage.

Table 12: Relationship Between the Level of Knowledge and Perception in Terms of Advantage and Disadvantages of The Amended Sin Tax Law Of 2020

Relationship		Correlation coefficient (r_{rho})	p-value	Remarks
Level of Knowledge on the amended Sin Taxation	Advantage	.338	.000*	Significant
	Disadvantage	.315	.000*	Significant

It means the null hypothesis is rejected at .05 level of significance

Source: (ABANTAS, 2022)

Interpretation:

To find a significant relationship between the level of knowledge and their perception towards the amended sin taxation in terms of advantages and disadvantages towards the amended Sin Tax law, the statistical test used was the spearman's rho correlation coefficient. It can be seen from Table 12 that the result between Level of knowledge and perception in terms of advantage is significant ($r_{rho}=.338$, $p<.05$). To Level of knowledge and perception in terms of disadvantage the result is also significant ($r_{rho}=.338$, $p<.05$). It can be noted that all their p-values are less than a .05 level of significance, thus, the null hypothesis (H_{03}) presented above is rejected. These findings imply that the level of knowledge and their perception towards the amended sin taxation in terms of advantage and disadvantage are also affected by the respondents' socio-demographic profile as shown in previous Table - Table 11.

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THE RELATIONSHIP OF AWARENESS, ATTITUDE, AND KNOWLEDGE TOWARDS INTENTION TO PRECLUDE FOOD WASTAGE IN COMMERCIAL KITCHEN

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Abstract: *Food waste occurs daily in practically every home, posing a significant challenge as it is often viewed as a reflection of individual or collective lifestyles. For many hotel companies, food waste is a major concern because it can occur at any point after food ingredients arrive in the kitchen, contributing to significant ethical issues. Despite the recent launch of numerous food waste programs in Malaysia, there remains a lack of adequate awareness, attitude, and knowledge toward preventing food wastage. The discovery of food waste issues should start from institutions, with a particular focus on students engaged in food preparation. In this study, researchers aim to understand the relationship between awareness, attitude, and knowledge toward preclude food wastage in the commercial kitchens of the Department of Tourism and Hospitality. Questionnaires were distributed via Google Form and a total of 136 responses were received from students among the Department of Tourism and Hospitality. The results indicate that both awareness and knowledge significantly influence the intention to prevent food wastage, with unstandardized coefficients of 0.320 and 0.437, respectively. While the relationship between attitude and the intention to prevent food wastage is not significant. The findings could contribute valuable insights to existing research and assist the institution in developing strategies to enhance awareness and knowledge about food waste among students.*

Keywords: *Intention; Food wastage; Awareness; Knowledge; Attitude*

Introduction

Food waste occurs daily in practically every home, making it a challenging issue as it has long been seen as a reflection of individual or collective lifestyle. Some people seem to have lost the meaning and understanding of the importance of food due to its constant availability at any time, and in various forms. As global population growth continues, it creates continued serious issues regarding food wastage which is linked to environmental and economic concerns. Food waste and its negative consequences are getting attention and even seems like a simple problem, but it is far more difficult to solve.

In 2019, Malaysia was generated an estimated 37,890 tonnes of waste everyday which is 16,687 tonnes were food waste (Zain, I. N. M., & Rahman, H. A., 2021). In the report by Zalina, M. S. (2023), Malaysia records the highest in Southeast Asia which generates 91kg of annual waste per capita in 2021 whereby this data was also issued by United Nation Environment

Programme (UNEP). According to a report released in April this year by the UNEP, Malaysians annual food waste reaches a staggering 8.3 million metric tons, with each person contributing 259.82 kilograms of this significance problem and this country has surpassed Greece in terms of global food waste (Nizam, F. 2023).

For many hotel companies, food waste is a major concern due to it can happen at any point after food ingredients arrive in the kitchen which can contribute to a deeply unethical issue. Other than that, according to Okumus, B. (2020) a significant portion of food waste is determined by the type, size, and quantity of menu offered by a restaurant and additionally, crucial roles are played during preparation, serving methods, and staff training on the need to minimize food waste and spoiling.

According to Abidin, N. N. Z et al, (2022) even though Malaysia has recently seen the launch of numerous food waste programs, there is still a lack of adequate knowledge, practices and attitudes towards food waste prevention within local communities particularly among food service workers. In addition, each person's awareness, especially those who are directly involved in the food handling process, has a significant impact on food waste amounts within the food service industry.

A study by Schanes K. et al (2018) exclaimed that there had already been rising concerns from food wastage that causes environmental impacts such as resource scarcity, greenhouse gas emissions, soil erosions, water and air pollution and deforestation. On a similar topic, food waste is also always related to the endangering amount of wasted agriculture efforts, be it fertilizers, irrigation water or working energy (Conrad Z., 2020). However, the lack of awareness from the community raised more concerns while food wastage is actively ongoing. With that, the research intended to understand the preclude of food wastage in the commercial kitchens of the Department of Tourism and Hospitality.

Literature Review

Food Wastage

Food waste, as defined by the High-Level Panel of Expert on Food Security and Nutrition, is a food that initially intended for human consumption or use but is either thrown away or left to decay and become contaminated (Abidin, N. N. Z et al, 2022; HLPE, 2014). Food loss and waste are the total edible parts of plants and animals (which is food) that are produced and harvested for human consumption but ultimately go uneaten by the end of the process. (Kennard, N. J. 2020; Lipinski et al. 2013; Parfitt et al. 2010).

Increased income enhances consumers' purchasing power, which allowa them to spend more money on other things like food in larger quantities and of greater quality, however, due to indifference to the negative consequences for the environment and unsustainable food purchasing habits, the food purchased ends up in landfills (Zain, I. N. M.,& Rahman, H. A., 2021).

Rady et al. (2021); Alegre & Berbegal-Mirabent (2018) wrote that hotels, restaurant, cafes and pubs produce thousands of tonnes of food waste each year which includes peelings and inedible by-products (e.g., bones, coffee grinds, tea leaves) but the most of it are perfectly acceptable as food. Buffet-style dining presents its issues related to food waste including served-but never-eaten food, the generous amount overwhelming menu choices, staff behavior, the culture of the restaurant and kitchen, unfavorable customer attitudes, and the discouragement of storing

leftovers (Okumus, B., 2020; Mirosa et al.; Lipinski et al., 2013; Gunders, 2012; Freedman & Brochado, 2010)

Awareness

Research by Rady, et al. (2021) found that factors that contribute to food waste in hotel restaurants often arise from issues such as unable to accommodate customer preferences when modifying menus and lack of customer awareness during a consuming phase. In the restaurant service industry, food waste is caused by several issues, such as improper storage; preparation residues from over-preparation and poor handling of food products, excessive portions and leftovers in plates; challenges in estimating customer numbers; forgotten and spoiled food; lack of awareness due to insufficient data on the food waste; as well as challenging in accommodating customers' dietary preferences (Sakaguchi, L., et al., 2018; Ofefi & Mikkelsen, 2011).

According to Ahmed, M. A. (2022) the empirical study suggests that increasing youth awareness of food waste can be achieved by university curriculum must include concepts related to sustainable consumption and food waste. In addition, regular awareness campaigns and skill-building activities for young people should be organized to encourage the shift in social norms and attitudes toward responsible consumption and reduced food waste. Putri, Y. A., et al., (2022). Increasing awareness of waste issues is important, and everyone should do their part in reducing waste. Additionally, it is necessary to enhance their understanding of personal responsibility regarding excess waste which can encourage waste reduction. Campaigns to raise consumer awareness about waste can be used to inform the public regarding the problem and change attitudes towards it by promoting sustainable disposal options and prevention (Deliberador, L. R., et al., 2021). Regretfully, despite a significant campaign with a lot of allocation by the Malaysian government, the waste management issue persists. In general, Malaysians are still largely unaware of how important these programs are to both their personal welfare and environmental sustainability (Zain, I. N. M., & Rahman, H. A., 2021).

Attitude

Attitude indicates the degree of performance of the behavior as defined by the individual as positive or negative (Aydin, H., & Aydin, C., 2022; Graham-Rowe et al., 2015). Numerous sociodemographic characteristics including gender, age, income, family size, and education are typically analysed with the various factors influencing attitudes and behaviours related to food waste (Dagiliūtė, R., & Musteikytė, A., 2019). While, based on study by Filimonau, V., et al., (2019) the internal factors significantly contribute to restaurant food waste which are staff skill, managerial attitudes, business regulations, and operational inefficiencies.

According to Okumus, B., (2020), the findings of the current study suggest that rather than back-of-house procedures, customer attitudes may have a greater influence on waste, and this is due to larger portion sizes, expanded menus, and buffet-style dining providing customers with a surplus of food options. In addition, programs for raising awareness about current local and global hunger statistics, the quantity of food wasted every day, and the implication of food waste on sustainability and environmental issues can be used to address guest-related reasons.

Knowledge

A study conducted by Jalil, E. E. A., et al., (2019) stated that as Malaysia's food security becomes a national concern, food loss and waste are becoming more and more common challenges that authorities need to solve and Malaysia still has poor standards for managing food waste, despite the enormous amount and complexity of food waste produced. These include outdated frameworks and documentation of food waste generation rates and composition, ineffective stems for storage and collection, and a lack of knowledge among public university users regarding food waste issues and the ways that inadequate food waste management contributes to the problem. This is supported by Chun T'ing et al., (2021) which mentions that due to a lack of knowledge and understanding, Malaysians might not be aware of the effect's food waste has on the environment.

According to Selahudin, N. F., et al., (2020); Fox et al., (2018) although knowledge is not sufficient for significant change, it is nevertheless a vital and useful beginning point for people to think about and understand the seriousness of food waste. Customers lacked knowledge about "best before" and "used by date", and they frequently fell for consumer misinformation that caused them to discard edible foods and therefore, it's crucial to educate people about the differences in expiration dates to reduce food waste (Phooi, C. L., et al., 2022).

Filimonau, V., et al., (2019), an investigation was conducted to find out how much managerial knowledge of the problem of restaurant food waste and attitudes towards mitigating it may have contributed to participants' inability to provide precise evaluations of food waste in their establishments. Focus on food waste caused by employees (pre-, during, and post-service); while it's normal practice to hire seasonal and unqualified workers at all-inclusive hotels, a brief training program that provides knowledge and/or skills is essential. Because of the demand for the all-inclusive setting, employees have limited time for training.

Research Hypothesis

Food waste issues discovery should begin with institutions, particularly focusing on students involved in food preparation. In this study, researchers try to understand the preclude of food wastage in the commercial kitchens of the Department of Tourism and Hospitality, the effect of awareness, attitude, and knowledge need to be explored. In doing so, improvement opportunities related to food waste are able to be established as well as maintained successful food waste reduction practices among students. To achieve the research aim, this paper proposed the following hypotheses;

Hypothesis 1: There is a significant relationship between awareness and the preclude of food wastage in the commercial kitchen.

Hypothesis 2: There is a significant relationship between attitude and the preclude of food wastage in the commercial kitchen.

Hypothesis 3: There is significant relationship between knowledge and the preclude of food wastage in commercial kitchen

Justifying further research on a topic. Cross-sectional studies can infer a relationship or correlation but are not always sufficient to determine a direct cause. As a result, these studies often pave the way for other investigations.

Methodology

This study employs a quantitative, cross-sectional design to examine the influence of

awareness, attitude, and knowledge on the intention to prevent food waste in a commercial kitchen setting. Cross-sectional design helps to conclude the relationship between independent variables (awareness, attitude, and knowledge) with the dependent variable (the intention to preclude food waste in a commercial kitchen). The study population focuses on students from the Tourism and Hospitality Department at Politeknik Kota Kinabalu in Sabah, particularly those enrolled in the Diploma in Hotel Management and Diploma in Resort Management programs who have practical experience from hands-on kitchen classes. The study includes 201 students from the DHM and DHR programs across all semesters, excluding those in industrial training and first-semester students.

In this research, the questionnaire was distributed using Google Forms, resulting in a total of 136 responses. In 1975, Roscoe, J. T., suggested that for most behavioral studies typically consider a sample of more than 30 but less than 500 is generally adequate. A one-month timeframe was allotted for data distribution and collection, and nearly two weeks were needed for analysis. The data were analyzed using version 26 of the Statistical Package for the Social Science (SPSS), and multiple regression analysis was conducted to test the study's hypotheses. The questionnaires were extracted from previous research related with independent & dependent variables and were tested for its reliability and the results were shown in Table 1. The questionnaire comprised 16 items designed to assess the relationships, using a Likert scale with five-point, where 1 represents "strongly disagree" while 5 represents "strongly agree".

Finding and Analysis

The respondents' profiles were categorized by gender and program. Among the 136 students who completed the questionnaire, 42 were male (30.9%) and 94 were female (69.1%). Additionally, 42 students (43.4%) were from the Diploma in Hotel Management program, while 77 students (56.6%) were from the Diploma in Resort Management program.

Table 1: Reliability Analysis

Variables	Number of items	Cronbach Alpha
Factors		
• Awareness	4	0.899
• Attitude	4	0.782
• Knowledge	4	0.919
Intention to Prevent Food Wastage	4	0.906

Table 1 provides a summary of the variables, including the number of items used to measure each variable and the associated reliability coefficient. Cronbach's Alpha scores are 0.899 for awareness, 0.782 for attitude, and 0.919 for knowledge. Each of these variables is assessed using four items. For the intention to prevent food waste, there are four items used, and Cronbach's Alpha is 0.906.

According to J. C. Nunnally (1978), a higher Cronbach's Alpha indicates a more reliable measurement instrument. Therefore, the values obtained in this study are considered acceptable, as higher coefficients signify better reliability. The values also align with the guidelines provided by George and Mallery (D. George & P. Mallery, 2003), which are as follows: $\alpha < .5$ is considered Unacceptable, $\alpha > .5$ is Poor, $\alpha > .6$ is Questionable, $\alpha > .7$ is

Acceptable, $\alpha > .8$ is Good, and $\alpha > .9$ is Excellent. The internal consistency of the items in the scale is higher when Cronbach's Alpha is closer to 1.0.

To investigate the relationships among all research variables, both multiple regression and correlation analyses were performed. Table 2 displays the strength of the relationships between awareness, attitude, and knowledge with the intention to prevent food waste, as assessed using the Pearson product-moment correlation coefficient.

Table 2: Correlations

		Prevention	Awareness	Attitude	Knowledge
Prevention	Pearson Correlation	1	.681**	.437**	.716**
	Sig. (2-tailed)		.000	.000	.000
	N	136	136	136	136
Awareness	Pearson Correlation	.681**	1	.554**	.762**
	Sig. (2-tailed)	.000		.000	.000
	N	136	136	136	136
Attitude	Pearson Correlation	.437**	.554**	1	.576**
	Sig. (2-tailed)	.000	.000		.000
	N	136	136	136	136
Knowledge	Pearson Correlation	.716**	.762**	.576**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	136	136	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

As indicated in Table 2, the intention to prevent food waste shows the strongest correlation with knowledge ($r = 0.716$, $p < 0.01$). This indicates that changes in the intention to prevent food waste are strongly associated with changes in knowledge. Meanwhile, the intention to prevent food waste shows a moderate correlation with awareness ($r = 0.681$, $p < 0.01$) and the lowest correlation with attitude ($r = 0.437$, $p < 0.01$). According to the results, all variables examined in this study are interrelated. The weakest correlation is between awareness and attitude, with a value of $r = 0.554$ ($p < 0.01$). Overall, the correlation coefficients range from $r = 0.554$ to $r = 0.762$. The significance (2-tailed) value for all variables in this study is 0.000. Since this value is less than 0.05, we can conclude that there is a statistically significant correlation between awareness, attitude, and knowledge with the intention to prevent food waste. To further examine the relationship between awareness, attitude, and knowledge with the intention to prevent food waste, a regression analysis has been conducted. The relationships between the variables are detailed in Tables 3, 4, and 5.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.746 ^a	.556	.546	.48208	2.164

a. Predictors: (Constant), Knowledge, Attitude, Awareness

b. Dependent Variable: Prevention

Table 3 presents the correlation coefficient and the coefficient of determination (r^2) for the regression model. The R-squared (R^2) value is 0.556, indicating that 56% of the variance in the intention to prevent food waste is explained by the independent variables of awareness, attitude, and knowledge. The remaining 44% of the variance is attributed to other factors or elements. The Durbin-Watson statistic is 2.164, which is close to 2, suggesting that there is no significant

autocorrelation problem in the regression model.

Table 4: The ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.483	3	12.828	55.197	.000 ^b
	Residual	30.677	132	.232		
	Total	69.160	135			

a. Dependent Variable: Prevention

b. Predictors: (Constant), Knowledge, Attitude, Awareness

By using an ANOVA, can determine whether the regression model explains a statistically significant proportion of the variance in the dependent variable. ANOVA evaluates the effectiveness of the linear regression model by comparing the ratio of the model's prediction accuracy to the accuracy of predictions based on the mean of the outcome data. Based on Table 4, the significance value is $p = 0.00$, indicating that at least one independent variable is a predictor of the intention to prevent food waste. The F-statistic value measures the strength of the significance, with higher values indicating a more significant result. This study reported an F-statistic value of 55.197 ($p = 0.00$), indicating a highly significant result.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.126	.237		4.744	.000
	Awareness	.320	.089	.329	3.589	.000
	Attitude	-.019	.066	-.020	-.281	.779
	Knowledge	.437	.086	.477	5.101	.000

a. Dependent Variable: Prevention

The coefficients table provides information on the regression equations and tests of significance for each predictor variable. As shown in Table 5, only the attitude has a significant value of 0.779, which is greater than 0.05 ($p > 0.05$) which means the attitude is not significant with the dependent variable. The other two independent variables, awareness and knowledge, both have significant values of 0.000 which indicates that both awareness and knowledge are significant predictors of the intention to prevent food waste. In general, the unstandardized coefficient (β) indicates the magnitude and direction of the relationship between independent and dependent variables. If the gradient of the line (β) is 0, it indicates that there is no relationship between the independent variables and the dependent variable, meaning that the independent variables do not predict the dependent variable. As shown in Table 5, the unstandardized coefficients for awareness and knowledge are 0.320 and 0.437, respectively. This indicates a significant relationship between both variables: awareness and knowledge as independent variables, and the intention to prevent food waste as the dependent variable. From these coefficient estimates (β), several interpretations can be made regarding the strength and direction of the relationships between the independent variables and the dependent variable.

First, an increase in perceived attitude will not lead to an increase in the intention to prevent food waste, as attitude is not a significant predictor of this intention. This suggests that attitude may not be a crucial factor in influencing the intention to prevent food waste, thus, this finding indicates that hypothesis 2 is not supported in this study. Secondly, an increase in awareness

and knowledge will raise the intention to prevent food waste by 0.32 and 0.44 points, respectively. This suggests that enhancing awareness and knowledge can effectively improve the intention to prevent food waste. These findings indicate that hypotheses 1 and 3 are fully supported. Out of the three hypotheses examined in this study, only two were accepted. Table 6 provides a summary of the results for the tested hypotheses.

Table 6: Hypotheses Testing Summary

Numb.	Hypotheses	Findings
Hypothesis 1	There is a significant relationship between awareness and the preclude of food wastage in the commercial kitchen	Accepted
Hypothesis 2	There is a significant relationship between attitude and the preclude of food wastage in the commercial kitchen	Rejected
Hypothesis 3	There is a significant relationship between knowledge and the preclude of food wastage in the commercial kitchen	Accepted

Overall, the findings of this study indicate a statistically significant correlation between awareness, attitude, and knowledge with intention to prevent food waste. Although all variables are correlated with one another, the coefficient results suggest otherwise. Specifically, attitude exhibits a non-significant relationship with the intention to prevent food waste, with a coefficient of 0.779. This result is also parallel with the finding by Teoh et al.(2021) which found that there is no proof of the effect of attitude on the intention to reduce food waste. Attitudes towards food waste do not have a significant effect on the actual intention to reduce waste, particularly when other factors like convenience or habit play a more dominant role. Contrary to the findings, attitude also has a significant effect on the intention to prevent food waste. According to Aydin, H., & Aydin, C. (2022) the relevant coefficients indicate a one-unit increase in attitude corresponds to a 0.122-unit increase in consumers' intention to avoid waste. The findings by E. Purwanto et al. (2023) are consistent with these results, demonstrating that attitude has a significant and strong positive impact on the intention to reduce food waste. From here, we can conclude that attitudes alone are not a significant predictor of the intention to reduce food waste, as other factors may contribute to the observed inconsistencies and varying findings.

Meanwhile, awareness and knowledge are significantly and positively related to the intention to prevent food waste. The research finding shows that increasing awareness and understanding of the environmental and economic benefits of reducing food waste led to positive behavioral changes. This is similar to the previous research finding by Chinie, C. et. al. (2021) indicating that individuals exposed to awareness campaigns have actively taken steps to minimize their food waste, demonstrating the effectiveness of such campaigns. Schanes et al. (2018) emphasized that the ongoing issue of food waste largely stems from a lack of awareness regarding its environmental and social impacts, with people often underestimating the amount of food they discard. It is essential to enhance younger generations to understand the broader consequences of wasteful behavior. By enhancing consumer awareness of the environmental and economic consequences of food waste, leads to a substantial reduction in the quantity of food wasted. To further enhance food waste awareness, social advertising should highlight the benefits of sustainable behaviors and cultivate a sense of gratitude for existing resources (Septiano et al., 2020)

Conclusion

The purpose of this study is to examine the relation of awareness, attitude and knowledge towards the intention to prevent food waste in commercial kitchens. It can be concluded that there was a significant relationship between awareness and knowledge intention to prevent food waste. The study emphasizes that greater awareness and better understanding of food waste issues lead to more effective waste reduction strategies. As levels of awareness and knowledge increase, individuals are more inclined to reflect on their food consumption habits and take action to reduce waste (Chinie, C. et al. 2021). Therefore, it is crucial to prioritize and enhance efforts to increase awareness and knowledge among students.

The study found that attitude failed to show a significant influence on the intention to prevent food waste. While individuals may have positive attitudes toward reducing food waste, these attitudes do not always translate into stronger intentions to change behavior. Although a positive attitude towards food conservation can significantly influence intentions to prevent food waste, the presence of a proactive attitude toward environmental issues is more likely to result in the adoption of behaviors that effectively reduce food waste (E. Purwanto et al. 2023). The disparity between positive attitudes and actual intentions implies that traditional behavior change models, which usually consider attitude as a precursor to intention, may need to be reconsidered. This suggests that mere awareness and positive feelings are insufficient; more comprehensive strategies addressing practical barriers to behavior change are crucial.

Overall, the food wastage issue still requires much needed awareness in order to reduce the impact on the environment. These findings could contribute valuable insights to existing research and assist the institution in developing strategies to enhance awareness and knowledge about food waste among students. Additionally, the research highlights significant implications for both policy development and practical interventions to reduce food waste. Interventions should aim not only to raise awareness but also to equip individuals with practical tools and strategies for everyday use (Chun T'ing, L. et.al. 2021). This could involve resources for meal planning, guidance on portion sizes, and tips for food storage to help convert awareness into concrete actions. With the continuous effort to spread the information, this research can provide valuable insights to the authorities to take significant action by developing new guidelines and policies aimed at reducing food waste in both commercial and household kitchens. Policymakers can use these insights to create initiatives that foster a culture of food waste reduction. This could involve supporting institutions or community programs that promote awareness and provide education, as well as incentives for individuals and businesses to adopt sustainable practices. While the research may not directly provide technology for local communities and commercial kitchens, it can inspire policymakers to adopt green practices. Furthermore, it can motivate engineers to develop projects focused on waste reduction, empowering communities to find their own solutions. Reducing food waste contributes to a healthier environment, resulting in less pollution and improved air quality, which benefits the community especially the younger generations. A cleaner environment enhances community motivation and helps to prevent health issues, which is a win-win situation for both the environment and the community. Thus, it's crucial not to underestimate the potential for action against food waste and other environmental challenges, as these efforts can lead to significant positive changes.

However, certain limitations should be considered when interpreting the results. The sample was restricted to students from a single institution, which may not adequately represent the diversity of food waste behaviors. To gain a more comprehensive understanding, future

research should include samples from multiple institutions within related fields, offering a broader perspective. Recommendations for future studies include improving research methods by incorporating additional variables and expanding the respondent pool to achieve more varied and robust conclusions. Future research could explore why positive attitudes often fail to translate into intention. Understanding the psychological, social, or contextual factors that influence this relationship could help develop more effective strategies for encouraging behavior change. In summary, although awareness and knowledge are vital in addressing food waste, the findings indicate that further efforts are necessary to close the gap between positive attitudes and actual behavioral intentions.

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ADOPTION OF THE CLIMATE SMART AGRICULTURE (CSA) PRACTICES: THE NEXT FRONTIER FOR SUSTAINABLE FOOD SECURITY

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Abstract: *A growing global population and changing diets are driving up the demand for food with more hungry people which is about 60 million over the last five years to reach close to 8.9 percent of world's population, showing the global need to produce almost 70% more food by 2050 to feed an expected 9 billion people. Being one of the major global contributors to greenhouse gas (GHG) emissions, agriculture has become a topic of concern regarding climate change in recent years. To achieve the food security, it is important for Malaysia to change the way it approaches food production. Malaysia imports between 30 and 40% of its rice needs, mostly from Thailand, India, and Vietnam. Due to our reliance on imported raw materials and protein staples, we are susceptible to changes in supply and policy by exporting nations. There is a risk that governments may impose export limits on food supply, which will affect the food security of importing countries. Climate-Smart Agriculture (CSA) able to respond to these challenges to build more resilient agricultural systems; and mitigating GHG emissions. Therefore, this study is conducted to explore the barriers in adopting the climate smart agriculture practices (CSA) among farmers in agriculture industry. The role of government and industry are crucial and should instead be in charge of driving the food security agenda which could overall achieve the target set in Sustainable Development Goal 2 (zero hunger) and moves the sector to be more competitive by encouraging farmers to utilize modern technology.*

Keywords: *Agriculture, Climate-Smart Agriculture Practices (CSA), Barriers, Government, Industry, Sustainable Food Security*

Introduction

Ensuring food security in the face of a burgeoning global population and evolving dietary patterns has become an urgent challenge, underscored by the fact that approximately 690 million people, nearly 8.9% of the world's population, grapple with hunger. The need to produce almost 70% more food by 2050 to sustain an expected 9 billion people amplifies the complexity of this challenge. Malaysia, like other nations, is not only grappling with these global food security concerns but is also steadfast in its commitment to becoming a carbon-neutral nation by 2050 (Rabbi et al., 2022). In the context of a changing climate, the conventional paradigms of food production face unprecedented threats, necessitating a paradigm shift towards sustainability.

Malaysia, contributing less than 0.7% of global greenhouse gas emissions, however they are actively working to reduce its emissions intensity, aligning with a 45% reduction target by 2030 (Abdul Latif et al., 2021). Climate change poses a significant risk to the nation's food security, impacting crop yields in various sectors, including rice production, fruits, vegetables, and livestock (Abdul Latif et al., 2021). The compounding effects of climate change, the COVID-19 pandemic, and geopolitical conflicts have underscored the vulnerability of the agrofood industry, impacting its contribution to GDP, annual growth, and employment rates.

In order to address issues with food safety and climate change, Climate Smart Agriculture practices (CSA) Has highlighted three pillars which incorporate economic, social, and environmental concerns (Hafezi et al., 2017). CSA is a strategy for putting theoretical ideas into practise and using money to support sustainable agriculture production (FAO, 2018). A mechanism for controlling risks associated with global change, such as variance, is adaptation (Sarker, Alam & Alam, 2019). The most crucial issues with global warming may be effective adaptation, which will actually cost less than the price of the effects that will result from no development. The key priority of CSA is to ensure growth and food protection. CSA consists of three major pillars:

1. Sustainably growing farm production and revenue
- 2 Adapting and developing resistance to climate change
3. Greenhouse gas pollution reduction and/or elimination

Therefore, this study is conducted to explore the barriers in adopting the climate smart agriculture practices (CSA) among farmers in agriculture industry.

Literature Review

Barasa et. al. (2021) showed that farmers in rural Africa frequently experience severe losses as a result of bad weather. This increases the demand for a low-cost, accurate weather forecasting system. A cheap automatic weather station that runs on solar power was created through a television screen to address these demands in Nigeria. The studies are supported by Bayih et al. (2022), who showed a very affordable cloud-based weather measurement unit in employing an integration of many special weather sensors to assure excellent weather monitoring around a farm. The system, which consists of a base, a weather station, a display unit, and other components, can efficiently collect various sorts of weather data, including temperature, humidity, wind speed, and wind direction.

CSA can be a useful approach to reaching the climate goals outlined in the agriculture sector, specifically when used in the planning process to ensure the integration of its elements adaptation, mitigation, and productivity in sectoral activity (Kim & Basak, 2024). However, there are concerns that the existing agriculture technology policy is not effectively implemented at the local level due to limited involvement from local authorities. Despite the availability of smart agriculture in Malaysia and its significant influence on far profitability, structure and environment impact, the adoption of technology and development of agricultural production in Malaysia is lagging behind neighboring countries (Alarussi & Alhaderi, 2018).). Most of the farmers in have only leased land or TOL land which leads them to not be willing to spend such an amount of time and money to invest their farm as the tenancy is not secured (Chang, Tan & tan, 2021).

On the other hand, the major conflicts such as pandemic and wars have affected global energy markets and food security, resulting in rising fuel costs and food prices, threatening global food markets and negatively impacting post-pandemic businesses. The direct consequence of the conflict was the emergence of food shortages in various countries due to restrictions on international trade, as well as interruptions in the supply chain of raw materials and the production of biofuels (Priya, Cuce & Sudhakar, 2021). In addition, the purchasing power of food-importing countries has weakened, affecting the ability of international food aid to support countries (especially with low incomes) that are heavily dependent on purchases from bilateral and multilateral development (Isabella, 2024).

Research Methodology

This study applied qualitative methods for data acquisition and achieve the overall research objectives. Qualitative study is chosen as it can provide more accurate results to explain the issues because the researcher will be the main instrument. This means that the researcher is directly involved in the collection and extraction of data. The study will be conducted in Pahang, one of the East Coast Economic Region (ECER) that represents 34% of total national agricultural area, which has a good potentiality to improve productivity and reduce high poverty intensity in this area. Pahang is also known as the state of highest vegetables crops production and vulnerable due to high variations in the climatic factors. Besides, this study could bring a significant impact by focusing on this state as it is consistent with the ECER Master Plan on modern and large-scale commercial farming for more crops production without leading to environmental degradation.

The total number of participants for in-depth interviews were 20. It is suggested that a range between 20 and 30 in depth interviews be adequate for homogenous population (Creswell, 1998). A purposeful sampling strategy was employed with the criteria that the participants should have knowledge of environment, smart agriculture and food security. This is to ensure that the information provided is able to achieve the objectives of this study and that the outcome benefits various parties. The collected data is maintained and considered confidential and the participants has been given a clear description of the study conducted and their purpose involved in the study. Participants' involvement in the study was based on their consent. The NVivo software used to analyze the transcript of interviews obtained through interviews.

Findings and Discussion

The first objective of the study is to identify the barriers in adopting the climate smart agriculture practices (CSA) among farmers in agriculture industry. Two main themes were determined; high cost implementation and unpredictable weather conditions.

Based on Figure 1, high implementation costs emerged as a critical barrier to CSA adoption. Informants highlighted that technologies such as precision agriculture systems, IoT devices, and modern equipment are capital-intensive, requiring significant financial investment. Informant 5 specifically noted that "smallholder farmers often struggle to secure the initial funding for CSA practices, which limits their accessibility." This financial constraint not only delays the adoption process but also places small-scale farmers at a disadvantage compared to larger, well-funded agricultural enterprises. The affordability gap creates a divide, where advanced farming technologies remain exclusive to wealthier stakeholders in the agricultural sector (Mir et al., 2022; Saad, Hamdan, & Sarker, 2021; Butturini, & Marcelis, 2020;

Avgoustaki, Xydis, 2020; Chowdhury et al., 2020). To mitigate these barriers, informants emphasized the need for subsidies, grants, and accessible financing options tailored to smallholder farmers. This would allow them to adopt CSA practices without jeopardizing their financial stability. Additionally, the economic burden extends beyond initial acquisition costs, as maintenance, repairs, and periodic upgrades to the technology also require ongoing investments. Farmers often lack access to affordable service providers for these technologies, which further complicates the financial viability of CSA practices. Without addressing these economic challenges, the scalability of CSA practices remains limited, hindering the sector's overall sustainability goals.

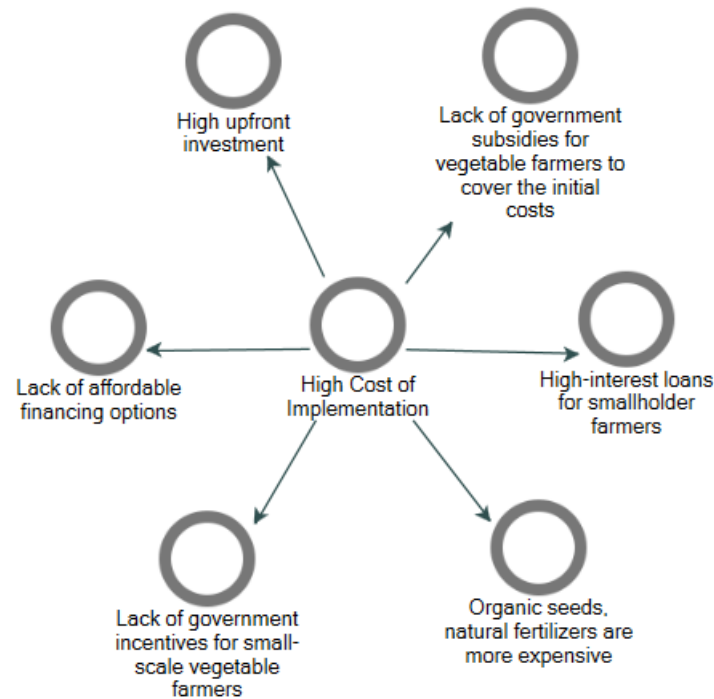


Figure 1: High-Cost Implementation

Besides, unpredictable weather patterns as shown in Figure 2 were highlighted as a substantial challenge that complicates the adoption of CSA. Informant 9 shared that "even with advanced tools and technologies, sudden climate shifts such as unseasonal rains or prolonged droughts disrupt planned agricultural activities." These erratic weather conditions undermine the reliability of CSA practices, which are often designed based on historical climate data and predictable patterns (Bhatnagar, 2024; Autio, Johansson, Motaroki, Minoia, & Pellikka, 2021). For example, precision irrigation systems rely on stable water availability and predictable weather, making them less effective during extreme conditions such as floods or prolonged dry spells.

Furthermore, the increased frequency of natural disasters, such as storms or heatwaves, adds another layer of complexity. Informants emphasized that farmers often face difficulty in aligning their farming schedules and resource allocations with these unforeseen climate disruptions. This unpredictability discourages further investments in CSA technologies, as farmers are unable to realize consistent benefits. To counter this, integrating real-time weather forecasting tools and adaptive management practices into CSA systems could enhance their resilience. Policymakers and technology developers must prioritize creating flexible, robust solutions that can adapt to fluctuating climate conditions to encourage broader adoption.

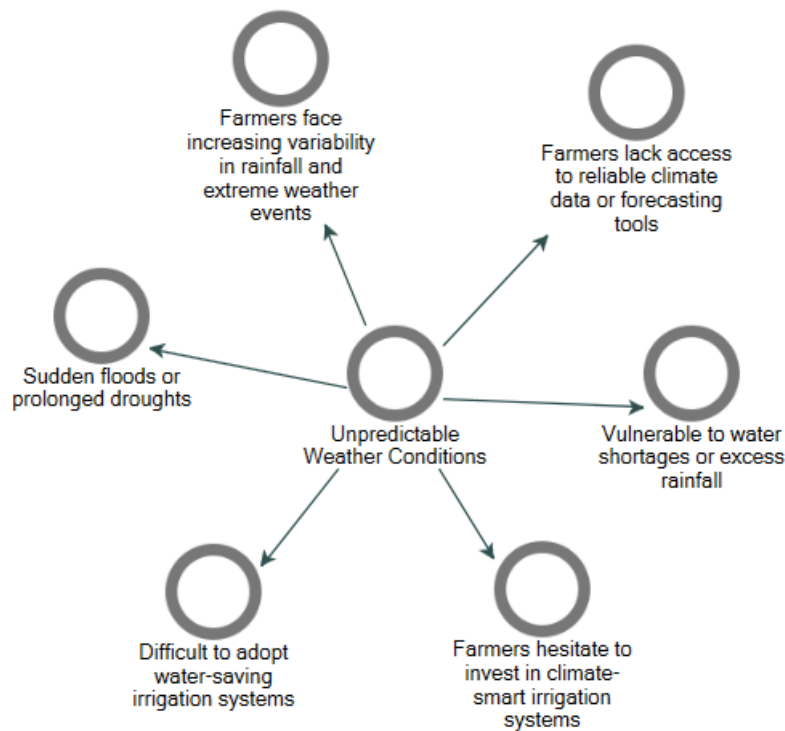


Figure 2: Unpredictable Weather Conditions

This research further aims to explore the strategies for promoting Climate Smart Agriculture (CSA) practices in Malaysia through the Quintuple Helix Model which are highlighted as follows:

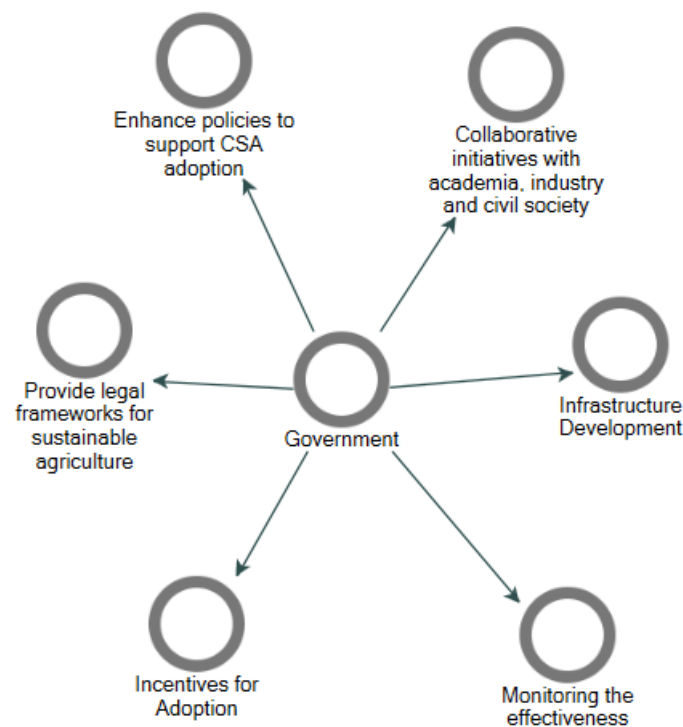


Figure 3: Government Role

Based on Figure 3, the Malaysian government plays a pivotal role in advancing CSA practices by developing comprehensive policies, providing financial incentives, and establishing regulatory frameworks. According to one respondent, *"The Malaysian government plans to integrate climate-smart agriculture by promoting sustainable practices, supporting climate-resilient crop research, providing financial incentives, and incorporating climate strategies in agricultural policies."* This includes offering subsidies, grants, and tax incentives to encourage farmers to adopt sustainable farming techniques.

Programs such as Agropreneur Muda and collaborations with agencies like MARDI are designed to modernize agriculture and promote climate-resilient strategies. However, the implementation faces challenges due to bureaucratic hurdles and outdated policies that need streamlining. As noted in the data, *"Government agencies can collaborate by forming public-private partnerships, engaging with research institutions, NGOs, and financial institutions, and supporting farmer cooperatives to promote sustainable and climate-smart agriculture."*

To ensure effective adoption of CSA practices, it is crucial for the government to enhance coordination among various agencies. This would help streamline efforts and avoid redundancy, ensuring that resources are effectively utilized to support CSA initiatives. The integration of digital tools and platforms can further facilitate this coordination by improving communication and resource management across different sectors involved in CSA promotion.

Furthermore, as shown in Figure 4, the industry sector is pivotal in advancing CSA by investing in innovative technologies and forming strategic partnerships that enhance productivity while minimizing environmental impact.

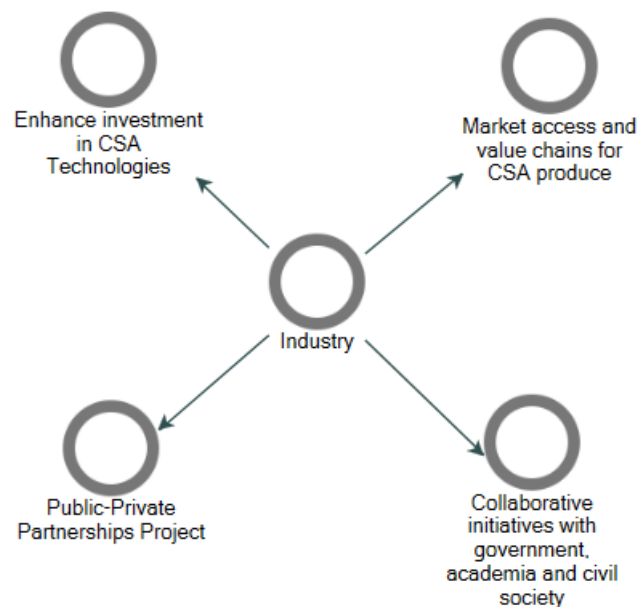


Figure 4: Industry Role

Businesses are increasingly adopting precision agriculture technologies such as IoT and AI to improve efficiency. As one respondent noted, *"Businesses in the agriculture sector are adopting sustainable farming techniques, investing in renewable energy, reducing waste and emissions, optimizing water usage, promoting biodiversity, and ensuring sustainable sourcing throughout their supply chains"*.

Despite these advancements, high operational costs and skepticism about the effectiveness of new technologies remain significant challenges. Industry partnerships can play a crucial role in overcoming these barriers by providing necessary funding and expertise to support CSA initiatives. By collaborating with governments and NGOs, companies can drive impactful changes in agriculture. Furthermore, aligning business interests with sustainable agriculture goals not only enhances brand reputation but also ensures long-term profitability. Companies can achieve this by integrating renewable energy, optimizing supply chains, and engaging stakeholders to promote sustainable practices. This strategic alignment is essential for fostering a resilient agricultural sector that contributes to Malaysia's broader sustainability objectives.

Conclusion

This study provided an overview of climate change, food security, and the effect of CSA on reducing climate change impacts. The key concentration of the research has been the relationship between smart-climate agriculture and sustainability for food security, which has been grouped into three components: CSA practices, investment in adopting CSA, and stakeholder collaboration opportunities. The results from our study provide different opinions in the adoption of CSA practices among Malaysian farmers.

Our study highlights the barriers that cause less adoption of Climate-Smart Agriculture that could help the government to enhance extension programs, especially to encourage the youth into the agriculture sector. By including climate resilience, CSA ensures sustainability of farm productivity, economic returns, social cohesion, and ecologically responsible activities. Some farmers started to make use of indigenous knowledge to implement strategies to mitigate climate change. This is because they experienced declines in production as a result of this recent phenomenon. The expected farm productivity and income is higher among farmers practicing CSA, who also incur higher investment costs than conventional farmers. Nevertheless, implementation of CSA practices among smallholder farmers is still remains low.

Successful mitigation of climate change in the agriculture will need integrating smallholder farmers' local knowledge and scientific knowledge. Promotion of CSA required Public Private Partnership (PPP) for collaborative efforts from the government, researchers, extension agents, insurance companies and farmers. Farmers consider farming to be high risk because the uncertainty nature of the extreme weather on agriculture. Financially viable investment in Climate-Smart Agriculture will support farmers to get knowledge which can save them time, manpower and money, and sustaining a high standard for food security and quality with soil conservation of the farmland.

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MAPPING RESEARCH ON EQUESTRIAN PLANNING IN TOURISM: A SYSTEMATIC LITERATURE REVIEW

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Abstract: *This paper reviews the literature on equestrian tourism. The main focus seeks to comprehend the present level of knowledge about equestrian tourism through a thorough literature review, including (1) revealing the interdisciplinary level of the equestrian tourism field, (2) recognising the subject matters and factors affecting equestrian tourism planning, and (3) identifying potential and gaps for future studies. The findings show a rising and considerable interest in equestrian tourism research, mostly in European countries. Furthermore, there is potential for an increase in demand in developing countries as the status of urban areas increases.*

Keywords: *Equestrian tourism, Tourism planning, Equine operators, Equine centre, Systematic literature review*

Introduction

Equestrian planning started from an operator's passion for horses and converted to a lifestyle industry with a long-term process including high consistency, hard work, and long working hours in offering sustainable tourism products (Sigurðardóttir & Steinthorsson, 2018). Due to the increasing demand for urban tourism, equestrian activities have become the best option for tourists to enjoy the scenery in a specific area. To provide this tourism product, equestrian planning is highly recommended to offer customer satisfaction and boost equestrian tourism demand for local and foreign tourists. Analysis of customer satisfaction helps operators to meet their demands and create customer's trust in the tourism products offered (Tolls & Carr, 2020). Operators need more knowledge and a better understanding of operation and innovation in equestrian tourism (Dashper, 2020; Buchmann, 2017), so that they can practically apply for their equine centres.

The importance of planning in equestrian tourism helps to optimize the benefits of equestrians, boost the economic sector, and minimise its possible problems (Hjalager, Kwiatkowski, & Larsen, 2020). It is important to plan before running the equestrian and avoid unplanned planning in equestrian tourism which often leads to social and environmental problems and specific areas facing low attraction advantages (Shoval, 2018). Tourism planning is based on problem-solving, such planning practices should be able to offer conceptual vision due to the value of considering contextual solutions (Rahmafritia, Pearce, Oktadiana, & Putro, 2020). The need for planning in equestrian tourism is of utmost importance, as this tourism product should last for a long time and potentially develop in many ways (Hjalager, Kwiatkowski, & Larsen, 2020).

On the other hand, equestrian planning is a means of creating quality tourist destinations (Hjalager, Kwiatkowski, & Larsen, 2020) for the enhancement of tourist satisfaction and to meet the demands of tourists (Sigurðardóttir & Steinthorsson, 2018). As operators, understanding tourist expectations is critical while completing trail rides since it may help operators better target and sell their tourism offering and fulfil tourist satisfaction (Tolls & Carr, 2020). According to the study by Sharpley (2018), expectations were formed before the trip began, but the value of services offered to visitors has a significant impact on their experience and satisfaction. Tourists bring their personal standards, views, and expectations with them.

To offer the best experience, operators must maintain adequate animal welfare, including horses to ensure tourist satisfaction before, during and after the ride. Dashper (2018) mentioned in their study that expectations, experience, and visitor satisfaction are all closely connected features and fundamental words in the study of tourism services especially in equestrian tourism. Helgadottir & Sigurdardottir (2020) strongly agree that horse condition plays a major role during the visit and trail ride that will affect the tourist experience and satisfaction. As tourist expectations on trail rides increase, tourists are seeking special kinds of experiences often with a focus on authenticity, where scenery and surroundings play an important part (Park, Choi, & Lee, 2019). It will become a crucial issue if operators are unable to provide the basic experience to comply with tourist demands (Helgadottir & Sigurdardottir, 2020; Tolls & Carr, 2020; Sharpley, 2018).

Equestrian tourism requires proper planning in every aspect to make sure the tourism product becomes the main option for tourists (Sigurðardóttir & Steinthorsson, 2018; Buchmann, 2017) who seek adventures, leisure and healthy tourism activities (Helgadottir & Sigurdardottir, 2020). Planning is crucial instrument to anticipate potential ethical difficulties that will occur as a result of tourism by preparing and issuing guidebooks to tourists (Shoval, 2018) and it is a part of training for operators to easily identify the ethical issues properly (Rahmafritia, Pearce, Oktadiana, & Putro, 2020; Almeida, Costa, & da Silva, 2017). Morrison (2019) underscores this point as the tourism market is becoming more competitive if operators can prepare systematic planning. This will create quality destinations that will fit tourist's demands. Therefore, the need for tourism planning is compulsory and if operators ignore it could be counterproductive for the tourism product (Rahmafritia, Pearce, Oktadiana, & Putro, 2020; Morrison, 2019; Shoval, 2018).

The issue that remains unsolved is about planning for equestrian tourism. It is one of the main reasons why operators failed to offer the best equestrian experience to tourists, especially in trail ride track, horse welfare, and customer service (Tolls & Carr, 2020; Helgadottir & Sigurdardottir, 2020). Plus, the problem of low profit from the horse centre has been a longstanding concern in the equestrian tourism sector. Buchmann (2017) highlights the issue that still gets little attention regards tourist accessibility, as well as the sort of infrastructure already present on the path that should be considered. Some experts in equestrian tourism research found that operators who ignored the basic process of planning were unable to encourage more tourists to try the tourism product and failed to develop equestrian tourism for a country (Cernaianu & Sobry, 2019; Sigurðardóttir & Steinthorsson, 2018; Notzke, 2017).

As per experts from the equestrian tourism industry's concern, it has a significant with equestrian tourism products in Malaysia. Therefore, it is important to respond to all the issues highlighted and to respond to the issue, a tourism planning process will be implemented to provide basic guidelines based on expert approaches to develop equestrian tourism. Malaysia

has seen a surge in the number of agro-tourist facilities, which provide a variety of attractions, including those that cater to equestrian tourism demands. should be considered as part of the tourism product. With the good condition track and infrastructure, operators only need the guidelines to provide impactful tourism activities for local and foreign tourists.

The literature review will be applied as a methodology to respond to the issue with valid literature from experts in the equestrian tourism industry. In the beginning, the tourism planning process is a basic term to be highlighted with the significant points from the valid literature. Within the context, next the tourism planning process will be compliance and mapping with the equestrian tourism industry from an expert point of view. Lastly, the basic guidelines of planning in equestrian tourism will exist based on a valid literature review. This process is significant with the development of equestrian tourism from all over the world and could be applied to operators. The concerns about the slow development of equestrian tourism in Malaysia able to be solved by using the basic guidelines based on valid literature. The focus of this research is to structure the guidelines for equestrian tourism based on tourism planning.

However, a systematic literature review on equestrian tourism has not been explored, and several reviews and analyses on equestrian tourism widely discussed. Therefore, the purpose of this research is to address a knowledge gap by conducting a comprehensive literature review and then to present the field of research on equestrian planning in tourism. By this, this systematic literature review will identify major contributions in tourism by emphasising what is known and what needs to be learned for future researchers. This study would also assist equine operators grow their equine facility and services, as well as define their policy, practise, and perception of equestrian tourism and tourism planning.

Definition of Key Terms

Equestrian tourism rapidly growth popular tourism product with enabling contact along with nature and environment (Sigurdardottir, 2018). It was inspired by horse enthusiasts, strong traditions associated with horses, cultural background, and historical occurrences (Dashper, 2020). Tolls and Carr (2020) defined equestrian tourism is a type of adventure tourism and a developed tourist product that is done in leisure time for the goal of enjoying the landscape of a riding path that requires a travel of more than 48 hours. Adventure tourism been defined as activities focused on outdoor activity, hazardous experience, excitement, risk, personal challenges and adrenaline rushes (Janowski, Gardiner, & Kwek, 2021). Horseback riding is one of the hobbies that is beneficial to one's health, motivation, and physical condition (Sharpley, 2018).

Individual or organised equestrian tourism mostly focuses on horseback riding during vacations and free time, and particular horse excursions (Sigurðardóttir & Steinthorsson, 2018). Equestrian tourism, which is comparable to horse-based tourism, frequently refers to horse-riding tourism, which involves horseback riding for fun in equestrian facilities, paddocks, or even particular excursions (Sigurdardottir, 2018). Tolls and Carr (2020) argue that some equestrian tourism is not limited to traditional features like recreation, but beyond the equestrian competition that provides an opportunity for recruiting health conditions or securing a living style. Hence, horse riding is a part of health tourism the type of therapeutic riding and the latest discipline including hippotherapy is related to equestrian tourism (Sigurdardottir, 2018).

It is sufficient to note that every region should have a fundamental tourist strategy, with an emphasis on equestrian tourism, which will address concerns with tourism and necessitate the necessity for tourism planning. (Almeida, Costa, & da Silva, 2017). According to Shoval (2018), the importance of tourism planning will develop attraction in specific areas and to remain as attractions in the years to come. Blazquez-Salom et. Al. (2019) agreed that regulations, legislations and policies should be carried out to design proper guidelines. Hence, the challenge of tourism development boils down to good and integrated tourism planning which should involve the local community (Janowski, Gardiner, & Kwek, 2021).

Methodology

A systematic literature review has been applied to this study to draw some conclusions on the field of equestrian tourism. Significant information on equestrian tourism has been collected from 50 published articles by initiated PRISM screen methods towards target literature review, including the journal from the field of current issue, policy research, leisure and events, Ecotourism, sport and tourism, Scandinavian hospitality and tourism in Scandinavian, tourism planning & development, service management and trends in tourist behaviour to provide adequate coverage of the scientific field. Following the first stage of the systematic literature review method, the databases were filtered and selected in the first stage. Then, the second stage requires each database's website to be visited from September 2022 until September 2024 to perform the advanced search using keywords. Next, third stage the relevant 50 published articles were content analysed by filtering their authors, research variables, major findings and many more. Finally, stage four required findings of the content analysis were presented and find out the research gap and discover the factor of equestrian tourism. The stages of the systematic literature review method are the following:

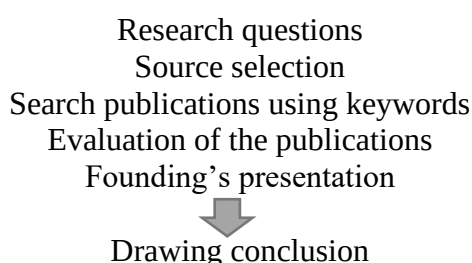


Figure 1. Step Conducting a Systematic Literature Review

The first step in conducting systematic literature review is determining a specific Research Question with clear and understandable point to investigate and answer it significantly.

Breretona et al. (2007) proposed that doing a mapping review will aid in identifying topic matter within a proposed research question. Following an initial search of the literature on the research issue, the researchers might use a rapid mapping technique to discover the different types of research activity connected to the research topic (Haddaway, Woodcock, & Collings, 2015). Therefore, Burgers et al. (2019) agreed that the Research Question should form a question or hypothesis that can be answered through a comparison of relevant studies. The following Research Question were designed:

- i. Research Question 1: What is the level of interdisciplinary approach to the topic based on articles publications sources, trend of year publications and academic profile of researchers?

- ii. Research Question 2: Which is the most specific matter of the research, as it was developed over time?
- iii. Research Question 3: Which appear to be main factor affecting equestrian planning in tourism?

Researchers carrying out the Systematic Literature Review (SLR) method where it only focusing on the leading journals that publish equestrian tourism and tourism planning. Researchers selected to focus their literature evaluation on the following publications to guarantee adequate coverage of the study field: “Journal of Current Issue in Tourism”, “Journal of Policy Research in Tourism”, “Leisure and Events”, “Journal of Ecotourism”, “Journal of Sport and Tourism”, “Scandinavian Journal of Hospitality and Tourism” and “Tourism Planning & Development”. These publications publish the vast bulk of scholarly research on equestrian tourism and tourism planning. Researcher analyse 50 research articles related with the focused field.

The researcher examined full-text papers published in the researcher's target journal from 2003 to the most recent year with the phrases "equestrian tourism" in the title, abstract, or keywords. The research was conducted recently, utilized key words (“equestrian tourism”, “horse-based tourism”, “equine operators”, “equine centre”, “equestrian product”, “equestrian event”) to ensure wider recording of the relevant literature. The present research contributes to the to-date knowledge available on the relevant topic (Streimikiene, Svagzdiene, Jasinskas, & Simanavicius, 2020) introducing the use keywords on the investigated gap and growing the research to more than one database. Following with theoretical and methodological approaches, this research potentially solves the concern term from experts. Overall, the study identifies more than 50 pieces of research collected from journal articles, books, and indexed, Scopus database regarding equestrian planning in tourism.

The findings from the first research showed that researchers with different field of study use different approaches. To fulfil the first research question of mapping the level of interdisciplinary approach, the additional keyword needed. The additional keywords were “sports tourism”, “riding tours”, “trail development”, “equestrianism”. “touristic consumer”, “service quality”, “human-animal relations”, “horseback hiking”, “horseback sledging”, “equestrian therapy”, “horse trekking”, “horsemanship”, “horse culture”, “nature tourism”, “equine sector”, and “horse enthusiasts”.

Following the definition of keywords, the researcher listed and evaluated publications. Based on the main and additional keywords, the researcher found the major topics discussed in these articles include the development of equestrian tourism in specific regions, tourist experience, satisfaction with equestrians, equestrian culture and heritage, and tourism planning and development supported by the government. The researcher removed articles that did not include any discussion of equestrian tourism and tourism planning. For example, the ethical treatment of horses or ethical horsemanship things carried out with the confines of a particular organisation.

The study indicated, in particular, that sample articles explored equestrian tourism from two separate perspectives. The first set of articles discusses the development and infrastructure of equestrians. In opposition to the first set of articles enacted the tourist expectation toward equestrian tourism that leads to tourist experience and satisfaction. This group of articles outlined two distinct equestrian tourism to improve the beneficial contribution of the study

and lower the adverse contribution effect of the research. The primary distinguishing features were also recognised by the researchers of tourism planning in this research related to the process of developing the tourism product.

Lastly, there will be a conclusion designed by the researcher regarding the characteristics and factors of equestrian tourism, and shape the trend of equestrian tourism for future study. Upon completion of the literature review, the findings were analyzed and conclusions were designed it will be presented in the next chapter. Overall, the researcher found the gap in the interdisciplinary approach of equestrian planning in tourism as well as the factors affecting the context.

Findings

In order to analyze the findings, the following tables are set out including the quantitative data as well as their analysis:

The Number of Publications Identified in Each Database

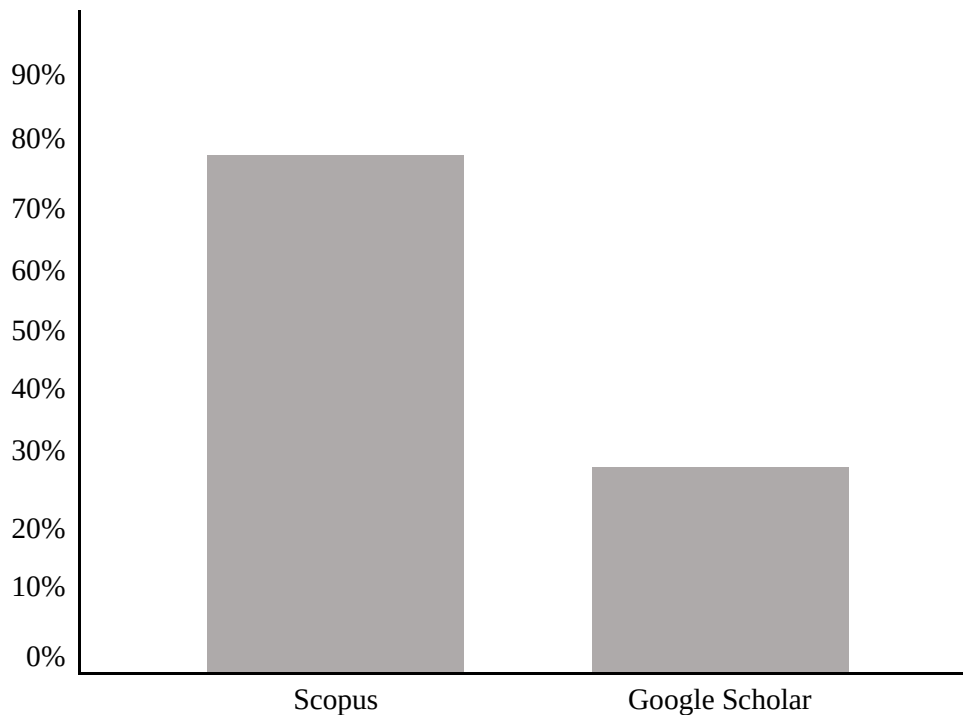


Figure 2. Articles Per Database

In the two databases researched, out of 50 identified publications, 36 were identified using Scopus (72%) and 9 were identified using the Google Scholar (28%).

The Researchers Who Explored the Topic

Table 1 sets out the list of the 78 researchers who explored the selected topic. Out of the total of the authors, Gudrun Helgadóttir and Ingibjörg Sigurdardóttir has conducted most of the research on equestrian tourism with 6 identified published articles (12%), followed by 3 publications by Sylvine Pickel-Chavalier (6%). Then, 2 published articles were identified by Sue Beeton, Monika Baranowska, Caroline Tolls, Neil Carr and Katherine Dashper (4%).

Other than that who have published one article on the topic achieved more than half of the percentage (28%).

Table 1. Name of Authors.

1.	Gudrun Helgadóttir (6)	27.	Peter H. Hackbert (1)	53.	Ivana Blesic (1)
2.	Ingibjorg Sigurdardóttir (6)	28.	Xilliang Lin (1)	54.	Marko D. Petrovic (1)
3.	Sylvine Pickel-Chavalier (3)	29.	Michelle Gilbert (1)	55.	Milan M. Radovanovic (1)
4.	Sue Beeton (2)	30.	James Gillet (1)	56.	Jernej Prisenk (1)
5.	Katherine Dashper (2)	31.	Malgorzata Burzek-Kowalik (1)	57.	Anne Gry Sturod (1)
6.	Monika Baranowska (2)	32.	Radoslav Klamar (1)	58.	Ingeborg Nordho (1)
7.	Caroline Tolls (2)	33.	Jan Kozon (1)	59.	Sandoe Nemethy (1)
8.	Neil Carr (2)	34.	Utsa Mukherjee (1)	60.	Adam Bartos (1)
9.	Susan A Moore (1)	35.	Sorina Cernaianu (1)	61.	Ashaq Hussain Najar (1)
10.	Claudia Ollenburg (1)	36.	Claude Sobry (1)	62.	Hafizullah Dar (1)
11.	Brezinska-Wojcik (1)	37.	Marek W. Kozak (1)	63.	Parwaiz Ahmad Najar (1)
12.	Teresa Baranowska (1)	38.	Teresa Brzezinska-Wojcik (1)	64.	Qurat Ul Ain (1)
13.	Margaret J. Daniels (1)	39.	Desmond O. Brown (1)	65.	David Newsom (1)
14.	Anne Buchmann (1)	40.	Andreiana Violeta Andreaa (1)	66.	Amanda Smith (1)
15.	Carol S. Kline (1)	41.	Lucretia Mariana Constantinescu (1)	67.	Paula Danby (1)
16.	David Cardenas (1)	42.	Maria Cristina Stefan (1)	68.	Dasha Grajfoner (1)
17.	Paige P. Viren (1)	43.	William C. Norman (1)	69.	Alemu Alene Kedebe (1)
18.	Jason R. Swanson (1)	44.	Zhong Wu (1)	70.	Elan Jaelani (1)
19.	Rebekka Schmudde (1)	45.	Burcur Belber (1)	71.	Lukiata Komala Erdinaya (1)
20.	William C. Norman (1)	46.	Yakup Erdogan (1)	72.	Rohanda (1)
21.	Claudia Notzke (1)	47.	Pavic Lazar (1)	73.	Susie Perbawasari (1)
22.	Nur Fadilah Darmansah (1)	48.	Jane Williams (1)	74.	Utsa Mukerjee (1)
23.	Mohd Saidin Misnan (1)	49.	David Marlin (1)	75.	Peter Fredmana (1)
24.	Abdul Rahman Mohd Sam (1)	50.	Carlos Monterrubio (1)	76.	Lusine Margaryan (1)
25.	Abdul Hafiz Omar (1)	51.	Riana Iren Radu (1)	77.	Jocelyn Perez (1)
26.	Runolfur Smari Steinhórsón (1)	52.	Mihaela Carmen Muntean (1)	78.	Oana Daniela Lupoe (1)

Year of Publications

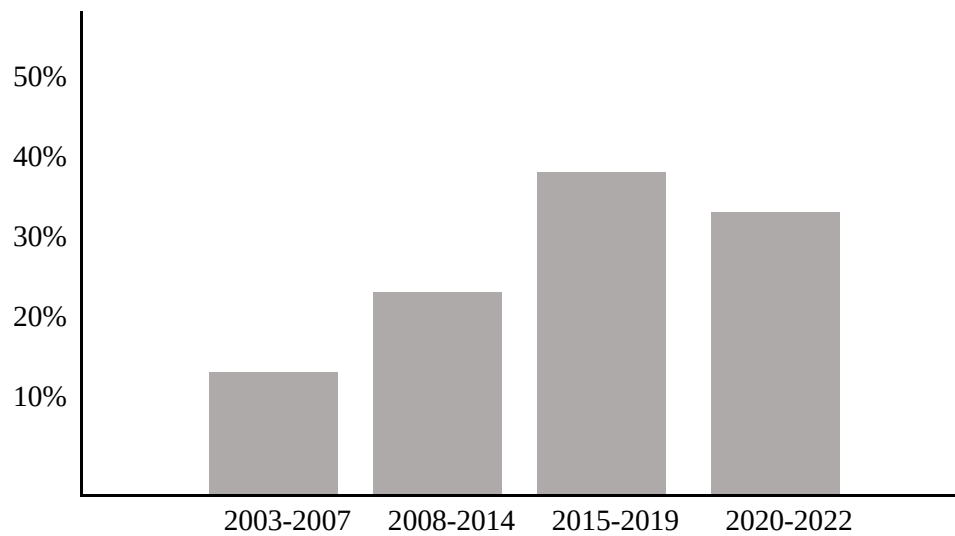


Figure 3. Publications Per Year

The articles were published from 2003 to 2022. 15 studies had been carried out by 2014 and 35 studies from 2015 onwards. An increase in the researcher's interest for the selected topic is observed from 2008 to 2014 (10 publications, 20%), while the majority of the identified articles appear to have been published from 2015 to 2019 (19 publications, 38%).

The Field of The Articles

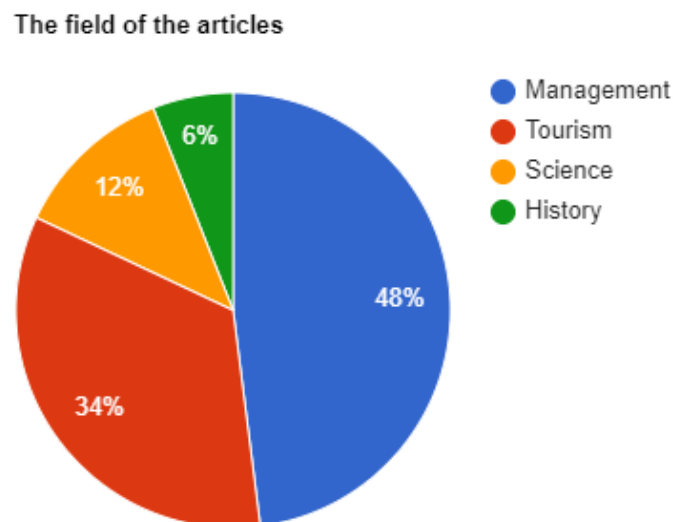


Figure 3. The Field of The Articles

Most of the fields from 50 articles review covered by management area (24 articles, 48%). Following by second most area, which is tourism area (17 articles, 34%) and equine science become the third most articles review (6 articles, 12%). The least articles review field under history as it found (3 articles, 6%). Most researchers agreed that management area need to be covered before any of equestrian product offer to tourist.

The Academic Background of Researchers

The researchers who discover the topic have a different background in the following disciplines: management, tourism, equine science and history.

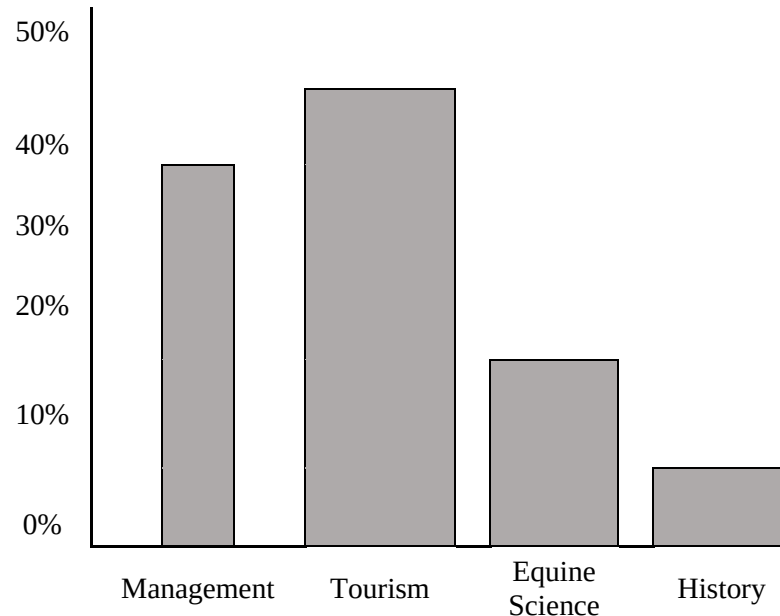


Figure 4. Academic's Background

From 50 publications, 22 were written by author in tourism field (44%), 19 by author in the field of management (38%), 7 by author in the field of equine science (14%) and 2 by author in the field of history (4%). There is significant differentiation in the academic profile over a decade. The majority of study conducted by author form tourism field in last 20 years. Following the author from field in management within 2012 to 2022. Author from equine sciece background also had minority number due to focusing in horse welfare and the less academic background from history where only 2 published articles found.

Subject Matter of The Research and Factor Affecting Equestrian Tourism

During the process of the systematic literature review in 50 articles, significant findings were identified in all of them. The mentioned of 50 publications provided a list of the general subject matters of the selected research field. The 50 articles that significant findings were found that been wrote by researchers whose from management, science, history, and tourism background. Apart from that, tourism background become main focus of this study that also required whole service of the tourism product. From the analysis of the significant findings that were defined the general subject content of the research, the specific subject matter of the study and the main factors affecting equestrian tourism in each study.

Analysis of the findings

The general objects of the research on equestrian planning in tourism, as emerged from the systematic literature review were defined and oulined below in order of popularity:

The environmental and social consequences of equestrian tourism in protected areas. The researchers' broad topic was determined in 12 articles (24%), 8 of which are from the tourism field (16%), 3 articles from the field of management (6%) and 1 articles from history (2%). The situation of equestrian tourism appears to be interested area to study and cover a large proportion of the most of the research. Beeton (2010) study the growth of the adventure equestrian tourism industry in Australia and the approach to prevent from turning into environmental and social problem. This study supported by Anne Bunchmann (2014) where the researcher also analyzing the opportunity for developing equestrian tourism, support supply side of domestic tourism in Australia. The study also highlight the current environmental situation were excellent to support their agenda for equestrian tourism. Following by Rebekka Schmulde (2015) mentioned about the equestrian tourism situation in Iceland, wherein equestrian tourism has been discovered to help to the preservation of Iceland's traditional style of travel and to be a part of current Icelandic culture. Sylvine Pickel-Chevalier (2015) mentioned about equestrian tourism in France and its potential to provide environmental and reliable social impacts. Furthermore, the current situation in rural areas in Poland and Slovakia gained the tourist attention as one of leisure activities in rural areas (Buczek-Kowalik, Klamar and Kozon, 2017). This study agreed by Sorina Cernaianu and Claude Sobry (2015) as France and Romania can be nomited as biggest equestrian spot due to development of urban area and good support by government in any tourism product. Other than that, Katherine Dashper, Gudrun Helgadóttir and Ingibjorg Sigurdardóttir (2021) executed depth research about planning, managing and experiencing equestrian events to support the development of equestrian tourism.

Quality and Customer Satisfaction. The said subject was identified 10 articles (20%), 7 of which are from the field of management (14%) and 3 from the field of tourism (6%). Using the keyword “equestrian centre”, research able to identify the quality of equestrian product and customer satisfaction during the event. Ingibjorg Sigurdardóttir & Guoron Helgadóttir (2015) found out in their research that quality of provided service to visitor have important relationship with customer satisfaction during the horse-based activities. This research has been agreed by Burcur Belber and Yakup Erdogan (2019) from their study in Turkey. They estimate the service quality ratings of domestic and international tourist customers participating in horse trekking activities in Nevsehir, Turkey.

Associate with health tourism ideas. The said subject was identified 5 articles (10%), all of them in the field of equine science. By expecting high standards of animal welfare and horsemanship, female patrons look to their equine partners for camaraderie, inspiration, and exchange (Notzke, 2017). Associate with health tourism ideas in the production of equestrian tourism goods is routinely employed, and operators are constantly alert of many of the current resources that might be used for equestrian tourism business improvement towards wellness (Sigurdardóttir, 2018). In a recent study by Paula Danby & Dasha Grajfoner (2020), deep expressive components were experienced through inter-subjectivity, where participants discussed the mental benefits of being engaged in natural environments with their horse partners.

The evolution of equestrian tourism from adventurers to connected riders. The said subject was identified 3 articles (6%). All of them in the field of history (6%). See Beeton (2002) traced the historical development of a partnership between group perceived to have divergent aims to cover the cost of complacency. In recent study by Ingibjorg Sigurdardóttir & Runolfur Smari Steinhórsson (2018), their research examines the influence and character of cluster formation through an examination of the revolution in cluster-related equestrian activity.

Sylvine Pickel-Chavalier (2019) mentioned in their study that tourism may commit to revaluing equine history, but it will involve a significant socio-cultural shift, as well as a reconsideration of how the horse is utilised, among other things.

Environmental sustainability and conservation of cultural heritage. The said subject was identified 3 articles (6%), all of them in the field of management (6%). Study from Sandoe Nemethy and Adam Bartos (2019) explored the result for joint cross-boundary development of horse-based tourism to maintain equestrian tourism as the tourism sustainability product. This study has been agreed by Helgadóttir and Sigurdardóttir (2020) in their research in Iceland where they found out the human-horse interaction has a long history of intangible heritage. This history comprises the customs of horse breeding, training, and riding, as well as equine-related beliefs and mythology.

Equine operators playing major role in equestrian industry. The said subject was identified 2 articles (4%), all of them in the field of tourism (4%). Helgadóttir and Sigurdardóttir (2008) define the quality from the operators point of view within equestrian industry, limited to that of horse rentals and riding tours. In the recent study, Caroline Tolls and Neil Carr (2020) described the horse as something need to handle in order to achieve horse riding experience and to guarantee that operators properly satisfy visitor sensibility expectations while not negatively impacting the welfare of the horses.

Based on 50 published articles, research simplified that the other subject matter in the present study, were investigated from 2012 onwards.

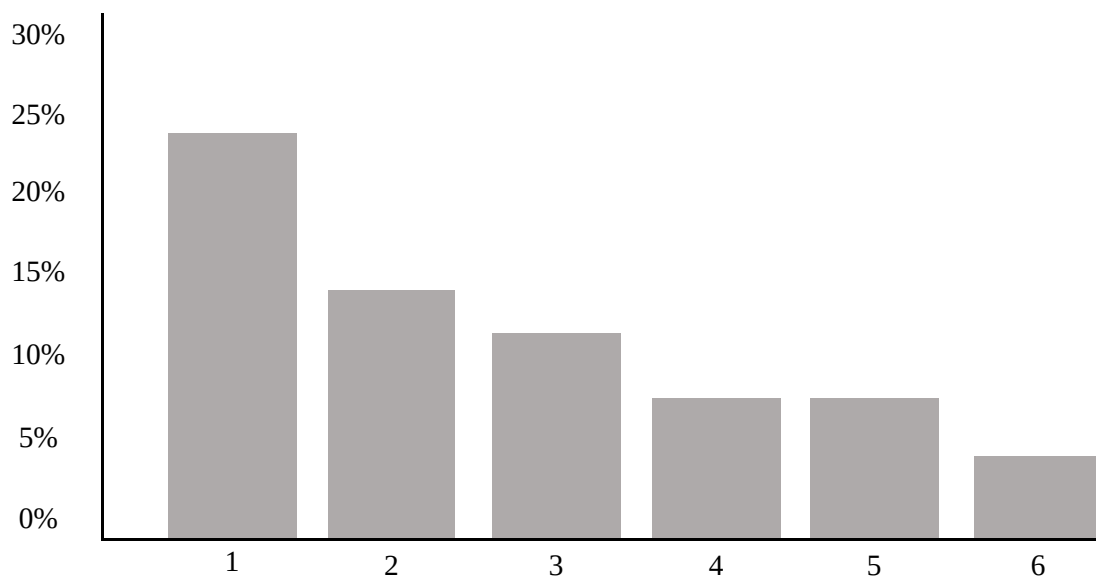


Figure 5

- 1: The environmental and social consequences of equestrian tourism in protected areas
2. Quality and Customer Satisfaction
3. Associate with health tourism ideas
4. The evolution of equestrian tourism from adventurers to connected riders
5. Environmental sustainability and conservation of cultural heritage
6. Equine operators playing major role in equestrian industry

The factor affecting equestrian planning in tourism, as emerged from the systematic literature review were defined and are outlined as follows in order of popularity:

Factor affecting development of equestrian tourism. This most popular type of factors identified in 38 published articles (76%), 28 of them from the field of tourism (56%) and 10 of them from the field management (20%). From the specific equestrian tourism, 18 articles focused on “equestrian development”, 10 articles focused on “marketing”, 6 articles focused on “environmental”, and 4 articles focused on “operators”.

Factor affecting the tourist. This second popular type of factors appears in 25 articles (50%), 14 articles of which are from tourism field (28%), 8 articles of which are from management field (16%), and 3 articles of which from history (6%). 15 articles focus on horse-related attraction, 6 articles appear the focus on the satisfaction and experience of horse riding, and 4 articles on the specific motivation of tourist visiting the equestrian centre.

Factor affecting the infrastructure of the horse trail. Infrastructure factors were identified in 15 articles (30%), 8 articles are from management field (16%), 6 articles are from history field (12%) and 1 articles are from tourism field (2%). The infrastructure for the growth of equestrian tourism and the horse industry in general is the topic of 11 articles. Then other 4 articles focus on infrastructures that are substantial, such as the transportation network including roads, bridges, airfields, harbours, and trails.

Factor affecting the involvement of government. Collaboration with government become popular factor affecting the tourism product as it appears 10 articles studied about it (20%). 6 articles from management (12%) and 4 articles from equine science (8%). The focused topic for 7 articles including the involvement of government through the tourism act and business policies. 3 articles focus on the credibility of government sector in helping operators and equine centre.

Factor affecting the socio-culture of the community. They are identified 5 articles focus on the socio-culture factors (10%). 3 articles are from management field (6%) and 2 articles are from history field (4%). These articles focused on psychological processes involved in the development of personality and cultural influences on the development of personality. Gender, religion, age, and socioeconomic status are a few sociocultural characteristics that have an impact on and influence horse ownership.

By 2012, most of the researcher focuses on investigating factors that focus on horse riding trail and development of equine centre. The other type types of factors were identified and investigated from 2013 onwards. Specifically, event and competitions, equestrian tourism hospitality and community involvement in developing the equestrian tourism.

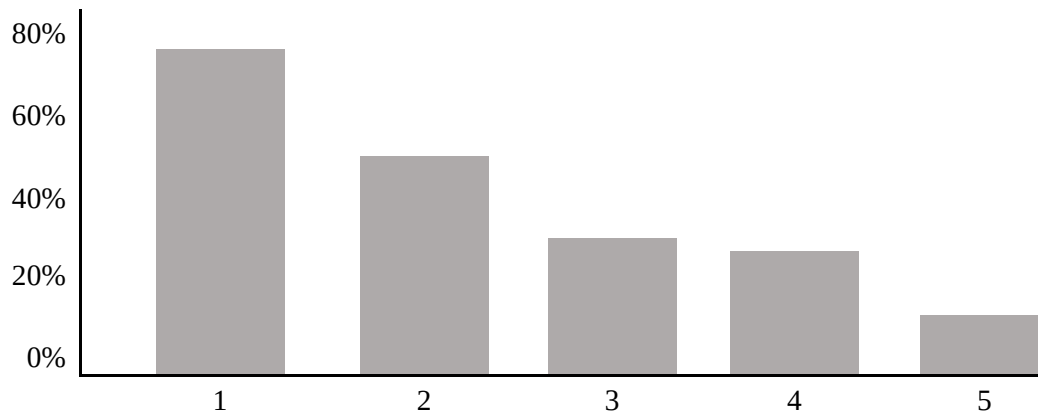


Figure 6

- 1: Factor affecting equestrian tourism
- 2: Factor affecting the tourist
- 3: Factor affecting the infrastructure of the horse trail
- 4: Factor affecting the involvement of government
- 5: Factor affecting the socio-culture of the community

Discussion and Conclusion

As equestrian tourism has allegedly grown and allegedly achieved conceptual and methodological development in the last 15 years (Sigurðardóttir & Steinthorsson, 2018), several attempts at mapping and synthesising the current corpus of knowledge have been noted in the literature. Systematic reviews have emerged as a significant method to evaluate the level of equestrian tourism information from many sorts of study undertaken by various experts. Our data clearly demonstrates this tendency, as it reveals an increase in the number of evaluations done in equestrian tourism over the previous decade. This study, however, casts doubt on the processes and techniques used by equestrian operators. More particularly, whether the reviews designated by scholars as systematic processes and practises to review the publications.

Knowledge production within the field of equestrian tourism is limited and remaining fragmented and interdisciplinary. Research implementing the literature review method using “equestrian tourism” as a keyword, analyzed most of the literature from the tourism, management, equine tourism and history field. The number of the identified articles is considered very limited to researcher in relation to the investigation field, but a fact in each articles reviewed giving advantages to researcher to respond to the research questions. The analysis of the findings confirmed that the field of equestrian planning in tourism has been conceptualized differently from each articles and studied by various group of researchers within diverse background. Moreover, the proven fact that most authors published only one article in the said field and only two authors, Gudrun Helgadóttir and Ingibjorg Sigurdardóttir, were identified with six published articles proves that engagement with the topic equestrian tourism.

- i. Reserch Question 1: What is the level of interdisciplinary approach to the topic based on articles publications sources, trend of year publications and academic profile of researchers?
- ii. Research Question 2: Which is the most specific matter of the research, as it was developed over time?

iii. Research Question 3: Which appear to be main factor affecting equestrian planning in tourism?

The findings related to Research Question 1 (What is the level of interdisciplinary approach to the topic based on articles publications sources, trend of year publications and academic profile of researchers?) originally shown the topic's lack of an interdisciplinary perspective. The anomalies discovered while comparing various literature reviews might be attributed to the multidisciplinary character of tourism. Research on said topic only have a background in tourism, management, equine science and history. As a highly prominent issue that has not yet attained the status of a tourism field, is a subject that needs to be examined by a collection of researchers from various educational backgrounds. Due to this matter, it is hardly unexpected that diverse practises are being deployed to approach the field. Airey (2015) suggest that this issue will raise issues about the field's stated maturity and will fall short of the level of protocols or checklists to employ when developing a representation of body knowledge.

In this study, Research Question 2 (Which are the most specific matter of the research, as it was developed over time?), the research mainly investigated “The environmental and social consequences of equestrian tourism in protected areas” followed by “Quality and Customer Satisfaction”. Both subject matters were investigated to a large extent by tourism expert in term of the equestrian development in the specific area. Most researcher with a background in management and tourism used depth analysis articles to conduct the investigation. Not less with equine science and history background that bring the significant findings to this study. The rigorous methods performed in the synthesis of findings separate systematic reviews from other forms of reviews, offering objective searches with a higher degree of efficacy and quality.

Regarding Research Question 3 (Which appear to be main factor affecting equestrian planning in tourism?), equestrian tourism development approaches become the most factor found in the published articles. Among the article review, this study shows that the service for customers and horses, the professional competence of the operators, the trekking for riding and the marketing activities by the equine centre have a positive influence on the success of the equestrian tourism in the specific area. For instance, to have a high perception of the equestrian operation as a successful centre, it is important to provide proper infrastructure with high specification in safety procedure and collaborations with government will be the best options in term equestrian tourism policies.

In conclusion, the reviewed publications were published in a vast number of journals in various domains. Equestrian tourism has mainly been studied from sport, event, welfare, and development perspectives. There were no selected publications published in journals devoted to equestrian tourism planning. The key reason for studying this topic is that the researcher selects journals that are more directly linked to the main emphasis, which is equestrian planning in tourism, in order to get the desired conclusion. This study will assist equestrian practitioners in their attempts to develop effective and sustainable guidelines. Furthermore, this research might benefit tourism organisations by strategically implement the guidelines as main reference for future equestrian tourism development.

Methodology Evaluation – Limitations – Future research

Systematic literature review has been applied for this study by investigated 50 research articles obtained from google scholar and Scopus databases. The decision to choose keywords on relevant articles from high impact journal have provided satisfactory results and interesting

points to be added. The present research contributes to the up-to-date knowledge of the topic and field by introducing the use of keywords on the study and expanding the research to more than one sources. Considering the limitations of systematic literature reviews discovered by the current study's analysis, the researchers conclude that there is a serious requirement for steadiness in the systematic reviews especially in the equestrian tourism scope and tourism planning. The knowledge is required in order academicians to improve research techniques supporting by the latest study of equestrian tourism, considering the growing volume of reviews in the tourist industry. This study identifies knowledge gaps within the literature and future research agendas that can be studied by more expertise in the field of equestrian tourism.

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DETERMINATION OF FITTING ISSUES FOR MALAYSIAN PLUS SIZE WOMEN

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Abstract: *The objective is to identify current fitting issues based on existing Plus Size Women (PSW) sizing. PSW having trouble identifying the correct size. 116 adult women between the ages of 20 and 50 were recruited in Selangor. The research results show the body weight and BMI of the PSW, which represents a significant value of data 0.00%. Findings show the pear body shape is the most populated with 32.48% (n=28). The major critical part of measurements in fitting is hip with 48.72% (n=42). Findings revealed there was also PSW having issues in fitting comfort during purchase of their clothing.*

Keywords: *Plus Size; Body Sizing; Manual Measurement; Body Shapes.*

Introduction

Over the last decade, retailers have paid more attention to the plus-size consumer as apparel companies have publicly debated whether to include or exclude plus-size clothing. In Malaysia, the total number of PSW is now estimated to be 33.6% (National Health and Morbidity Survey, 2019). Plus size is defined in the global marketplace as sizes 18 and up, or 1X-6X, while the extended size is 7X and bigger. 14W to 24W plus sizes are available. Extra and extended sizes are equivalent for sizes 26W and above. The size 26W is sometimes considered a plus size. In most plus-size retailers, the plus-size category begins with a waist measurement of 31.5-38 inches (Staton, 2019). Curvy is a relatively recent alternative word for plus size (or large size), and it is gaining market and media popularity. In a psychological sense, being curvy is perceived as less disrespectful to those who wear larger-sized apparel (Christel, 2012). In Malaysia, no anthropometry focusing sizing systems for the clothing industry. Malaysian bank data is also unidentifiable in Malaysia measurement systems, therefore proper sizing procedures cannot be constructed to ensure that clothes are manufactured in accordance with local sizes. All garment sizes are determined by various sizing standards from other nations, and it is still unknown how many different sized groups exist in the clothing industry, such as petite range size, plus size, varying body proportion size, and many more (Norsaadah & Deepti, 2020). Plus-size customers enjoy vibrant colors and patterns. According to (Chow, 2021), one statement from the BURO, the blog's website in 2019, with a few plus-sized Malaysian women regarding an available plus-sized store in Kuala Lumpur. One of them, Isabelle Yong in 2019, shared that figuring out current in-trend designs that fit her body type is one of her issues. She added that sometimes when she goes shopping, she simply cannot fit into any garments, and when she does discover whatever clothes she wants, there is a significant price difference, making a plus-size more expensive body to purchase items. There are several statements from Malaysian Plus Size Women individually mentioning the difficulty they had in discovering clothes that fit properly. With wide-set hips, finding a comfortable pair of jeans with the appropriate fit is like discovering a needle in a haystack throughout the city. Many stores that serve PSW mistakenly believe that plus-sized women only wear straight-cut denim, shirts, and

tunics, which is simply not true said (Nast, 2019). Everyone should be able to wear what everyone else is wearing. But she never let her size restrict her sense of style, and she isn't ashamed to admit that she sometimes had to shop in Topshop's maternity section. Therefore, the purpose of this research is to study and explain the size, condition, and problems of PSW with confused- sized clothing from the complaints about clothing sizing stemming from a different group of people. Some groups complain about the confusing sizing system and recently more about the different types of sizing groups like the plus size people. A complaint was initiated over the plus size measurements, causing the developing of a plus size website to share PSW dissatisfaction, according to Malay Mail Online in 2016. According to Nazirah in Malay Mail Online 2016, the blog's creator, she wanted to encourage plus-size clothing and see appropriate clothing manufactured for women like her. Several woman, stated in the same article in the Malay Mail online that she believes the concept for such a sizing label emerges from clothing manufacturers' irresponsibility (Tan, 2016, Gupta & Hodges, 2014) in researching plus size customers' needs. One size does not fit to all (Hauff & Greenleaf, 2021) unless it is a tent, and even that has sizes. Manufacturers are simply finding it difficult in researching product characteristics and ideal sizing.

Literature Review

When it comes to identity construction, the phrases "fat," "plus-size," and "curvy" all have different connotations: "fat" is usually a common insult, "curvy" is regarded attractive and favourable, and "plus-size" is a neutral and right leaning choice. The current study's findings found that most of the society prefer the terms "fat" or "plus-size" over "curvy," which matches existing qualitative research. However, the findings also indicate that when it comes to the plus-size, there is a comparison of different categories application of these physical terms. A garment may be well-made and have all of the necessary practical and aesthetic features that attract a customer's eye, but if it fails to fit well, customers might hesitate to purchase it (Adhanom, M., & Alvaro, N. (2023). A produced clothing should define a person's ideals, requirements, and preferences. Good-fitting clothing is useful. The customer not only preserves it in her closet, but also elegantly matches it with other outfits in order to enhance her self-esteem and appeal. All of the aspects of a good fit should be present in functional and well-fitting clothing.

Methods

Participants

Snowball sampling was used as a method to encourage the participation of PSW in Malaysia to join the survey through a questionnaire that included the demographic, BMI, also some issues related to plus size. This method is also known as a method that assists in recruiting individuals from a target group. Women between the ages of 20 and 50 who identified as plus-size and/or wore women's sizes 14 or higher and had a BMI of 30 were requested to complete a 10-minute survey about plus-size issues. The research is focused mainly on Shah Alam, Selangor. In order to reach a range of demographics, the researchers and graduate student volunteers posted the recruitment call on their social media such as WhatsApp and Telegram apps on smartphones. The link distribution also requested participants share and re-post the Google form link on their social media networks in order to increase the reach of participants. A total of 116 PSW respondents initiated the survey, and N=116 were completed and included in the data analysis.

Statistical Analysis

Body mass index (BMI) and age were used to categorize participants. BMI is calculated by dividing a person's weight (kg) by their height (m). Body size, or BMI classification, has been a key factor in discussion and is commonly utilized in fashion studies due to the growing number of plus size bodies throughout the last century. The BMI of respondents was determined using the Centers for Disease Control and Prevention's "obesity" categorization: overweight=25- 30, obese=30-35, obese II=35- 40, and obese III=40+ (Centers for Disease Control and Prevention, 2016). Participants were also divided into age groups: 20-24, 25-29, 30-34, 35-39, and 40-49. As tabulated in Table 1, sizing standards in the United States, and sizing systems range in measurements, labeling, and proportions (Dunn, 2016; Reczek & Benson, 2016), making it impossible to categorize human bodies by garment sizes.

Table 1: Demographic Characteristics of Participants (n=116)

Factor	Range	M	SD
Age	20 - 50	27.03	5.84
Weight (kilograms)	60 - 125	86.77	11.63
Height (centimeters)	145 - 170	51.20	5.32
BMI kg/m2	30.0 - 50.0	35.07	3.94
Ethnics		%	
Malay		1.96	1.173
Chinese		1.52	.981
Indian		2.77	.092
Others			1.42

M= Mean, SD= Standard Deviation

Results

A total of 116 completed surveys were used in data analysis. Demographic data are presented in Table2. Participants had a mean age of 27.03 (± 5.84) years, mean weight of 86.77 (± 11.63) lbs., mean height of 151.20 (± 5.32), and a mean BMI of 35.07 (± 3.94) kg/m², classifying the mean BMI as "obese" I. The majority ethnic group of PSW was dominated by the Malay ethnic (n=70) and was classified with a mean of 1.96 (± 1.173). Meanwhile, the mean of the Chinese ethnic is 1.52 ($\pm .981$), and the Indian ethnic group with a mean of 2.77 (± 1.092). Another ethnic group representing the mean of 1.42 was identified as minorities.

Table 2: Demographic Characteristics of Participants in Three Bmi Groups

Group	N	M	Weight (Kilograms)	Height (Centimeters)	BMI(kg/m2)
Obese I	62	32.05 $\pm$ 1.40	78.76 $\pm$ 6.95	156.63 $\pm$ 5.34	32.05 $\pm$ 1.40
Obese II	40	37.10 $\pm$ 1.51	92.80 $\pm$ 7.04	158.30 $\pm$ 5.18	37.10 $\pm$ 1.51
Obese III	14	42.65 $\pm$ 1.89	104.14 $\pm$ 9.08	156.14 $\pm$ 5.25	42.65 $\pm$ 1.89

Participants' BMI was calculated to determine "obesity" classifications (i.e., BMI >30). Table 2 characterizes participants by BMI into ranges set by the Centers for Disease Control and Prevention. The largest group (n=62) was within a BMI of 30 - 35 with a mean of 32.05 (± 1.40)

known as Obese I. ObeseII recorded a mean of 37.10 (± 1.51) with (n=40). Meanwhile, the mean of Obese III is 42.65(± 1.89) with the (n=14). Participants were also grouped by age.

Table 3 demonstrates demographics divided by age into 20-24, 25-29, 30-34, 35-39, and 40-49. The highest age group was (n=54) with a mean of 22.61 (± 1.30) representing ages 20-24. The smallest age group (n=6) with a mean of 43.50 (± 2.07) represented ages 40- 49.

Table 3: Demographic Characteristics of Participants in Five Age Groups.

Age Group	n	M	Weight (Kilograms)	Height (Centimeters)	BMI (kg/m2)
20 - 24	54	22.61±1.30	84.48±10.86	157.20±5.60	34.15±3.72
25 - 29	37	27.19±1.35	87.97±12.44	156.90±4.67	35.67±4.27
30 - 34	12	32.33±1.30	93.17±15.26	157.83±6.58	37.22±4.16
35 - 39	7	37.00±1.53	85.00±9.68	156.21±3.98	34.79±3.30
40 - 49	6	43.50±2.07	86.17±4.31	156.17±5.74	35.43±2.80

Anova					
Weight					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14320.039	71	201.691	7.122	.000
Within Groups	1246.133	44	28.321		
Total	15566.172	115			
BMI					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1485.309	40	37.133	9.153	.000
Within Groups	304.259	75	4.057		
Total	1789.568	115			

According to the Table 4, the interpretation behind this is that body weight and BMI has an impact on defining the accurate measurement of all PSW body shapes, as well as making it difficult to determine the fitting when selecting appropriate garments.

Table 5: Body Shape * Ethnic Crosstabulation

	Ethnic				Total
	Chinese	Indian	Malay	Others	
Apple Shaped	1	3	13	2	19
Banana Shaped	2	0	7	4	13
Diamond Shaped	5	1	5	1	12
Body Shape Figure Eight	1	3	6	0	10
Hourglass Shaped	3	1	19	2	25
Inverted Triangle	0	4	5	0	9
Pear Shaped	10	0	15	3	28
Total	22	12	70	12	116

Table 5 summarizes the Cross Tabulation Test-based ranking of each term among PSW respondents in the categories of body shapes and ethnic groups. Apple-shaped, banana-shaped, diamond-shaped, figure-eight- shaped, hourglass-shaped, inverted triangle shaped, and pear-

shaped are the most common terms for plus-size women's body shapes. The remaining terms were rated as least preferred and heard infrequently.

According to the data above, the most highly populated category is pear-shaped, with (n=28) total. Malay ethnic (n=15) had the highest representation among the numbers. The hourglass-shaped category was listed (n=25), with the highest number of Malay ethnic group participants (n=19).

Table 6: Body Shape * Critical Part of Measurements Crosstabulation

	Critical Part of Measurements					Total
	Shoulder	Chest	Waist	Hip	Crotch	
Apple Shaped	1	4	11	3	0	19
Banana Shaped	1	3	3	5	1	13
Body Diamond Shaped	2	3	5	2	0	12
ShapeFigure Eight	2	2	2	3	1	10
Hourglass Shaped	3	3	5	14	0	25
Inverted Triangle	4	4	0	1	0	9
Pear Shaped	3	3	8	14	2	28
Total	14	22	34	42	4	116

As shown in the Table 6, the Cross Tabulation test seen between body shapes and the critical part of the body in terms of measurement reveals that the hip is the most challenging part of the body to measure among some of the PSW with (n=42), with the Hourglass Shaped respondent having the highest (n=14). The second rank part of the body was the waist (n=34), which was dominated by respondents with apple-shaped (n=11). Meanwhile, the crotch area of the body is resulting the least number of respondents from each body shape category for causing difficulties during body measurement.

Table 7: Body Shape * Critical Part of Buying Clothes Crosstabulation

	Critical Part of Buying Clothes					Total
	Shoulder	Chest	Waist	Hip	Crotch	
Apple Shaped	2	7	5	3	2	19
Banana Shaped	2	6	3	2	0	13
Diamond Shaped	1	5	4	2	0	12
Body Shape Figure Eight	1	3	1	5	0	10
Hourglass Shaped	4	8	3	9	1	25
Inverted Triangle	4	1	3	1	0	9
	1	3	5	17	2	28
Pear Shaped						
Total	15	33	24	39	5	116

Table 7 depicts the ranking of body shape categories, with the shoulder, chest, waist, hip, and crotch being the most important body parts to consider when shopping for clothes. Using the Cross Tabulation test to examine the data, it is possible to determine that the majority of body categories have issues with the hip area of the body when deciding to purchase clothes. The hip area has the highest number of respondents (n=39), the majority of whom are pear-shaped (n=17). The Chest body part was placed second with (n=33), representing an hourglass shape, as the majority of respondents (n=8) experienced problems when purchasing clothing. The crotch (n=5) has the lowest rating of a critical body part. The majority of participants in each category have no issues with this body part in terms of buying clothes.

Findings

Plus-size women frequently expressed displeasure with their clothes size. It is unexpected that higher BMI (weight relative to height) is typically proven to predict body dissatisfaction in women (Burrowes, 2013; Weinberger et al., 2016). The results revealed that BMI is one of the factors in the fitting issue for PSW. The data according from the table 4 supports BMI as a problem in fitting issues. In addition, clothing fit may be used by women as a means to monitor their weight (Grogan, 2017), so it may have major consequences for body dissatisfaction; being unable to fit into clothing in their typical size may indicate to women that they have gained weight, possibly resulting in increased body dissatisfaction. The outcomes of the study indicate that weight also contributes to the factor of fitting issues. This is supported by data produced for PSW which also shows the significant value of .000 that weight also has a major role in determining the fitting issues. Thus, clothing fit is defined objectively as a wearer's body measurements (as determined through body scanning) being within ± 3 cm of a retailer's sizes (as determined through online size charts) on the bust, waist, and hip measurements (Gill, 2015). In this study, there is the most critical part of the body that influences fitting issues and measurements is the hip. The summary revealed that there is 28% (n=28) are the total of PSW have difficulties with this area of body parts. This highlights the importance of accessibility to well-fitting clothes for women of all sizes, and the importance for the clothing sector of

providing an adequate range of clothes in the upper size ranges. As BMI increases, the number of available shops where women can buy well-fitting clothes decreases, suggesting that retailers are currently not catering sufficiently to women with higher BMI; this supports suggestions by previous authors (Aagarup, 2018) (Downing-Peters, 2014). This is proved by the findings, which show that the majority of PSW with pear body forms have difficulty purchasing clothing due to their body shapes.

Discussion

This study shows that BMI and weight are important factors in determining the proper size. Since the majority of PSW is in the category of pear-shaped, body shape also influences the difficulties of deciding on clothing items. Plus, the outcomes represent that Malaysian women indeed have issues concerning body sizing measurement and it is important to develop a new standard of body sizing measurement to satisfy them considering the fitting difficulties.

Conclusion & Recommendations

In Conclusion, a standard body standard for plus size women is essential as a guideline in the fashion business and for consumers to refer to while locating the suitable size in retailers. A standard body measurement system that categorizes body forms for plus size women might assist them decide the perfect fit for their clothing that fits their plus size figure. To advance the study of body fitting determination, new studies should be carried out to establish body shapes for female plus size children in Malaysia. Even the development of sizing based on body shapes for plus size women should be recognized in order to provide pleasure by improving the issue of fitting system for benefits to their accurate size while buying apparel. During the data collection procedure, several plus size women stated their belief that the current standard sizing system should be improved to take into consideration for the actual shape of their curvy bodies. Recognizing the classification of plus size body type is critical for finding and creating garments that will best suit the plus size women's weight and preventing fitting problems such as inaccurate body measurements in sizing references and other fitting issues. The study found six types of body shapes: bottom hourglass, hourglass, inverted triangle, rectangle, top hourglass, and triangle. In addition, with the improved classification of body forms, these new standard body sizing will take into consideration the wearer's appropriate body measurement in order to precisely fit their body. Furthermore, standard sizing has been designed to serve as a guideline for the Malaysian fashion industry in the decades to come, particularly for plus-size women.

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Paper Contribution to Related Field of Study

Understanding the fitting is important when selecting the appropriate PSW apparel. According to the findings, the research results would improve the comfort of body fitting size among PSW in Malaysia. This study would be helpful for fashion designers and clothing manufacturers to

pursue a knowledge of the fitting measurements and the classification of the body shape as a guideline in designing clothing for Plus Size Women.

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ISSUES, CHALLENGES, AND EFFECTS OF LOWEST BID RULE IN REPUBLIC ACT NO. 9184 OR OTHERWISE KNOWN AS THE PHILIPPINE GOVERNMENT PROCUREMENT LAW ON PROCUREMENT CORRUPTION AS PERCEIVED BY THE COA AUDITORS OF LANAOS DEL NORTE

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Abstract: *The lowest bid rule is a fundamental factor in determining the winner in a government public bidding. It necessitates strict compliance of all the bidding requirements to promote regularity of the transaction and propriety in the bidding applied for.*

It also eradicates procurement corruption, however it is believed that there are many deficiencies noted in the procurement of the government agency. Collusion among bidders, fraud and corruption exist in the country's current state, despite the R.A. No. 9184. The existing conditions enumerated in this study may or may not be signs of deficiencies in the procurement. However, R.A. No. 9184 and its Implementing Rules and Regulations need more revision, especially in terms of its implementation to lowest bid rule. More deficiencies were noted during the audit of different goods and infrastructure contracts.

This study determined the perception of COA Auditors of Lanao del Norte on the issues, challenges, and effects of the lowest bid rule on procurement corruption in order to minimize corruption. The auditors are experts in determining which stages of the procurement process may have loopholes in which those corrupting activities may take place.

To help minimize procurement corruption, the following is recommended for every agencies: (1) imposing and implementing system of penalties for delays on scheduled completion of projects. Debarring the firm should be implemented for committing several delays in project completion; (2) preparing a cost and benefits analysis of each project and reject a not-so-beneficial project; and (3) setting up an independent monitoring system that will check contract implementation, aside from COA.

It is then recommended for the Government Procurement Policy Board (GPPB) to make a resolution requiring all government agencies a cost and benefit analysis report, especially for infrastructure projects and large amounts of goods, included in the Annual Procurement Plan (APP). This should be attached with the indicative APP to be submitted during the budget preparation stage, to further evaluate the much-needed projects or goods; to make a resolution allowing a claim for honorarium to the allowed observers during the different procurement stages for them to be motivated and give them the interest to attend the said procurement; and to make guidelines for whistleblowers, especially in securing their safety and steps in reporting corrupt-prone projects. Also, it is recommended that this study be extended to other areas in the Philippines where perception of other COA Auditors will be gathered.

Keywords: *Corruption, Government, Procurement, Republic Act. No. 9184.*

Introduction

Public procurement plays a vital role in the efficient delivery of goods, services, and infrastructure in the Philippines. Republic Act No. 9184, popularly known as the Government Procurement Reform Act was passed to promote transparency, accountability, and efficiency in public procurement. One of the key aspects of this law is the implementation of the "lowest bid rule," which requires that government contracts be awarded to the bidder who offers the lowest price, provided that all technical and legal conditions are followed.

The goal of the lowest bid rule is to avoid wasteful spending and guarantee value for public monies; to promote fair competition and good governance; to adhere to the principle of transparency, accountability, equity, efficiency, and economy in its procurement process; and to protect the public from fraud, favoritism, corruption and inefficiency in public procurement, but these generated a lot of discussion and criticism also. Critics contend that this law can result in dishonest procurement practices, lowered project quality, and ineffective government operations when it is misused or abused. The viewpoints of the Commission on Audit (COA) auditors, who are entrusted with investigating and guaranteeing the appropriate use of public funds, are especially clear examples of these difficulties.

Therefore, at this juncture, a study is necessary to determine the perception of the COA Auditors as the authorized government body empowered to observe, investigate, and make recommendations regarding the issues, challenges, and effects of the lowest bid rule on government procurement corruption. By understanding these perceptions, the study seeks to contribute to the ongoing discourse on improving procurement practices and strengthening anti-corruption measures in the Philippines.

Literature Review

Procurement is one of governments' most economically significant activities, but it also poses one of the greatest public sector corruption risks. Procurement corruption may seem abstract but it shapes the lives of citizens in ways great and small. For example, construction of roads that do not meet technical specifications can reduce trade flows and opportunities for commerce. Estimating the direct financial losses caused by corruption, an inherently secretive activity that must be first discovered and proven, is difficult.

However, according to Denis Nixon, the Philippine procurement system is particularly prone to manipulation during the post award phase, which makes this lack of data all the more troubling. He offered that: "You get a lot of change orders following [the award]. The whole system is designed to go to the lowest cost. Really it is highly risky to not take the lowest bidder. [Procurement officials] would really have to have gone to the trouble to have a lot of information and justification and be able to prove that the person that they chose for the contract was the best person. It is a high risk to somebody's job to do that, so they just don't do it. So the system designed to go to the lowest bidder. What that opens up is that they give the job to the lowest bidder and then the requirements are not 100 percent clear, and all of a sudden there are change orders that go through. And those change orders are where a lot of the corruption takes place." (Furnas, 2013)

Corruption entering and influencing the public procurement process diverts funds away from social needs, engenders bad decisions, distorts markets and competition, raises prices and costs, and increases the likelihood that services and goods will be poor quality, potentially putting sustainability, the environment and human life at risk.

The World Bank makes a distinction between two broad categories of corruption: (1) state capture, which refers to actions by individuals, groups, or organizations to influence public policy formation by illegally transferring private benefits to public officials (i.e., efforts by private actors to shape the institutional environment in which they operate); and (2) administrative corruption, which refers to the use of the same type of corruption and bribes by the same actors to interfere with the proper implementation of laws, rules, and regulations.

Corruption in the nature of “state capture,” for example, may involve attempts by private firms to influence the broader project appraisal, design, and budgeting process by making illicit campaign contributions. “Administrative corruption” could include, for example, a bidder’s attempt to bribe an administrative decision maker in order to secure a lucrative public procurement contract. A further example would be the giving of a bribe by a contractor to a government engineer or inspector to “ease up” on his or her inspection of substandard goods or services provided by the contractor.

Corruption in public procurement can have many detrimental effects. For instance, corruption often increases the cost and lowers the quality of goods or services acquired while reducing the likelihood that the goods or services purchased will meet the public’s needs. Thus, public procurement corruption results not only in immediate, tangible losses to the public, but also in a deeper erosion of public trust in the government. The effect may be to drive away good companies who are unwilling to buy their way into procurement contracts, leaving behind a pool of unscrupulous and inexperienced contractors to carry out the projects.

Transparency International defines corruption as “the abuse of entrusted power for private gain.” Private gain must be interpreted widely to include gains accruing to the government official, his or her family members, close friends, political party, favourite charity, hometown or a corporate or other entity in which the official or the official’s family or close friends have a financial or social interest.

Vito Tanzi enumerated different factors contributing to corruption which are deeply rooted in public finances. These include regulations and authorizations; taxation decisions; spending decisions; provision of goods and services at below market prices; the quality of the bureaucracy; level of public wages; transparency of rules, laws and processes and discretionary decisions. There are, however, other factors, such as the quality of leadership and penalty systems that are not public finance-related.

Tanzi proposed two basic strategies in combatting corruption. One is to pursue a zero-tolerance approach, given the existing role of the state. This means strengthening mechanisms for anti-corruption, including promotion of equity offices, creation of anti-corruption commissions, better control on public officials, higher penalties for offending officials, higher wages for public sector employees, reduction in the right to privacy in terms of disclosure on wealth, linkage with international and regional anti-corruption bodies, and media exposure.

Another strategy is by modifying the role of the state such that policy changes are instituted that reduce the demand for corruption by scaling down regulations, authorizations, quasifiscal

activities, and other activities that tend to be abused by the public officials and employees. This calls for clearly delineating the role of the state from the rest of the economy, instituting clear legal and administrative framework for fiscal management, and disclosure of information on government's fiscal activities in a timely and periodic manner. Both strategies are needed and will complement each other in the fight against corruption. Tanzi concludes that improving governance and fighting corruption must be conducted on both fronts: the demand for corruption and the supply for such acts need to be reduced.

Jill Wells suggests that the most harmful forms of corruption for development outcomes are: (1) Corruption that influences the project appraisal, design, and budgeting process by diverting investment towards projects with low returns and towards new construction at the expense of maintenance and (2) corruption during project implementation that results in substandard construction that shortens the life of projects and hence drastically reduces the economic rate of return (ERR).

Accordingly, one significant threat against open and effective competition is cartels. Cartels are situations where companies, which are normally competing, are acting together for aim to raise prices and gain more profit. Cartels are possible in each industry, but it is more likely to have cartels if there are only few big actors in the industry and there is no or only some new arrivals. The predictable demand or recurring acquisition creates better atmosphere for cartels to born. Also simple and similar products help competitors to agree about prices and especially if there is no or only few substitutes (OECD, 2009).

There are multiple ways to arrange and execute cartels, but all of them are harmful for competition. According to Organization for Economic Co-operation and Development (OECD) the four basic strategies for cartel are cover bidding, bid suppression, Bid rotation and market allocation. Cover bidding is situation where companies purposely makes too high offer or have terms that purchases cannot accept. This is made to create illusion of real competition. In bid suppression the competitors agree to withdraw from competition, thus the earlier agreed company wins the bidding. Bid rotation means that companies bid in turns. Each competitor is bidding but there is agreement of winner each time. Market allocation is situation, where companies agree for example geographic areas where each one is allow to compete. To avoid cartels, OECD have created guide for procurement units to help recognize and avoid cartels. (OECD, 2009)

Corruption in public procurement occurs most frequently through bribes, extortion, bid-rigging and other forms of fraud.

The following are a few examples of how bribery of public officials can occur in relation to an infrastructure project: (1) a government official may be bribed to either provide planning permission for a project or approve a design which does not meet the necessary regulations; (2) a bidder may offer bribes to a government official in order to be improperly favoured throughout the bidding process, or to induce the official to manipulate the tender evaluation; or (3) a bidder may make a donation to a certain political party in order to ensure preferential treatment.⁵³

The following are examples of how extortion can occur—the making of a demand backed by force or threat—can manifest in public procurement: (1) a bidder may threaten to harm a government official or the official's family unless the official gives unwarranted favourable treatment to the bidder; (2) a government official may demand something in return for assisting

a company to win a bid or for fair treatment of the company in the bidding process; and (3) any situation that involves the payment of bribes can include an element of extortion.

The public procurement process attracts fraudulent behaviour because it involves the exchange of massive amounts of money and resources. Examples of fraud in public procurement include: (1) where a bidder deliberately submits false invoices or other false documentation (with or without collusion of public officials); (2) where bidders form a cartel and secretly pre-select the winners for certain projects; (3) where a contractor submits false claims in order to receive more money or more time to complete a project; or (4) various forms of illegally diverting money, such as money laundering and embezzlement.

These examples are just a few of the ways corruption manifests in public procurement. Given the great potential for many types of corrupt practices in public procurement, regulation of public procurement procedures should be a priority at all levels of government.

Respecting principles of integrity, transparency, accountability, fairness, efficiency and professionalism throughout the procurement process will minimize corruption risks and maximise the chance that the economic, social, environmental and political benefits of public procurement will be realised. These principles underpin and provide guidance on the essential standards to be met and elements needed to help ensure procurement systems are corruption free. (OECD, Curbing Corruption in Public Procurement, 2014).

Competition is a key instrument in public procurement, which prevents corruption and cartel arrangements, reduces contract prices, and helps the contracting authority to achieve maximum value for its money. A bidder who does not have to compete against other bidders has no motivation to offer their best possible quality/price ratio. The influence competition has on final contract price has been confirmed by a number of academic studies.

According to José Ugaz, Chairmain of Transparency International: “In too many countries, people are deprived of their most basic needs and go to bed hungry every night because of corruption, while the powerful and corrupt enjoy lavish lifestyles with impunity.”

In 1900, the United States Philippine Commission introduced the American practice of public bidding in procurement in the Philippines. During this period, there were many laws on public procurement followed such as: (1) Act No. 22- Chief Engineer of US Army acted as the purchasing agent of government; (2) Act No. 74(1901)- mandated contracts for purchase of school supplies thru invitation to bid and the awarded to the lowest responsive bidder; (3) Act No. 82 (1901)- Provincial Governors and Municipal Mayors to enter into contracts for public works and purchase of office supplies through competitive bidding; (4) Act No. 146- creating Bureau of Supply (supply, materials, equipment, etc.); (5) Executive Order No. 16 (1936)- No contract shall be entered into or renewed without public bidding; (6) Administrative Code of the Philippines (1917) - Supply Law where there is acquisition of supplies, materials, and equipment for the various offices and branches of government. The award of contracts for construction and repair of national public works and improvements is through Bureau of Public Works; (7) Procurement and Supply Law; (8) Office of Insular Purchasing Agent (1910); (9) Division of Purchase and Supply; (10) the Procurement Office (1947); and (11) Bureau of Supply under Department of General Services in 1958 (Marundan, 2016).

In 2002, the Congress of the Philippines passed Republic Act No. 9184, the “Government Procurement Reform Act,” to address what had a World Bank Country Report characterized as

a “dysfunctional” public procurement system. It was signed into law on January 10, 2003 by then President Gloria Macapagal Arroyo, and took effect on January 26, 2003. Its Implementing Rules and Regulations- Part A took effect on October 8, 2003. This is to prescribe the necessary rules and regulations for the modernization, standardization, and regulation of the procurement activities. However, a Revised IRR was signed and took effect on September 2, 2009. And finally on October 28, 2016, the final Revised IRR took effect.

All procurement of the national government, its departments, bureaus, offices and agencies, including state universities and colleges, government-owned and/or controlled corporations, government financial institutions and local government units, shall, in all cases, be governed by the rules and principles of procurement.

RA 9184 applies to the following branches and/or instrumentalities of the government: (1) National Government Agencies (NGAs); (2) Local Government Units (LGUs); (3) Government Owned or Controlled Corporations (GOCCs); (4) State, Universities and Colleges (SUCs); and (5) Water Districts.

Thus, the general rule is that it covers procurement of all government agencies. It shall apply to the difference procurement activities of the agencies such as Goods, Infrastructures, and Consultancy Services.

All Procurement shall be done through competitive bidding except as provided in RA 9184 wherein resorting to Alternative Method shall be made only in highly exceptional cases.

Further, the amount in the Approved Budget of Contract (ABC) will be the ceiling for the bid price. There is no case that the proposed bid of the bidders will go beyond the ABC, otherwise the bidder will be disqualified. However, minimum amount on the bid price has no floor limit. The law strictly follows the rule on ABC as a ceiling or upper limit.

To ensure transparency in the procurement process, the following are required, specifically on the Invitation to Bid, Notice of Award, Signed Contract Agreement, and Notice to Proceed: (1) Posting in the Procuring Entity’s website; (2) Posting in the PhilGEPS website; and (3) Posting in a conspicuous place within the premises of the Procuring Entity is required for all procurements.

As a general rule, all procurement shall be through Competitive Bidding. However, whenever justified by the conditions provided in Republic Act No. (R.A.) 9184 and its revised Implementing Rules and Regulations (IRR), the Procuring Entity may, in order to promote economy and efficiency, resort to any of the alternative methods of procurement provided in Rule XVI of the IRR of R.A. 9184 (Revised IRR. 2016.p147).

In all stages of the procurement process, BAC must invite in writing, at least three (3) observers at least three (3) calendar days before the date of the procurement stage/activity, who shall be a representative from COA, from duly recognized private group in the sector or discipline of the particular type of procurement involved, and from Non-Government Organization (NGO).

The observers represent the public, the taxpayers who are interested in seeing to it that procurement laws are observed and irregularities are averted.

Observers shall be allowed access to the following documents upon their request, subject to signing of a confidentiality agreement: (1) Minutes of BAC meetings; (2) Abstract of Bids; (3) Post-qualification summary report; (4) APP and related PPMP; and (5) Opened Proposals.

Research Methodology

Research Design

The research was started with extensive literature review in the form of previous studies, research papers, online journals, and online articles related to the subject.

The researcher used quantitative research approach in the conduct of the study. Thus, an Ex Post Facto Research Design through a Survey Research Design, particularly a Cross-Sectional Survey is selected to collect information at one point in time. This is best serve to collect data of quantitative nature and to answer the questions and the purposes of the study.

This study focuses only on the perception of the COA Auditors in Lanao del Norte towards the effect of the lowest bid rule in procurement corruption. As such it covers two types of data, the first hand and the second or background data. The former are gathered from the COA Auditors of Lanao del Norte selected as the respondents of the study. The latter, on the other hand, came from COA employees, files, and compilations. Moreover, books, journals, newspapers, magazines, and internet websites are also used in gathering the background data. This study will use questionnaire as the tool of gathering primary data.

A structured questionnaire was prepared for respondents to give appropriate answers. However, due to the different location of the offices of the respondents, an online form through the Google Drive Survey Questionnaire was also employed. The said online questionnaire has the same content with the questionnaire personally distributed to the respondents whose offices were in Iligan City.

Further, the possibility of retrieving back all the questionnaire was a result of the researcher's colleagues who will offer a helping hand.

Sampling Technique Used

This study randomly selected respondents through systematic random sampling for those COA auditors in Regional Office No. X whose official station is outside the province of Lanao del Norte but with assigned audited government agencies located within the province of Lanao del Norte, including city of Iligan.

For those COA auditors whose official station is within the Province of Lanao del Norte, complete enumeration of forty-one (41) respondents was used.

Data Gathering Instrument

In the conduct of this study, the data gathering procedure came in two phases, the preliminary procedure and the main procedure.

Preliminary Procedure

Letter to the Regional Director of COA Regional Office No. X, located in Barangay Carmen, Cagayan de Oro city asking permission to conduct this study was accomplished first. The letter contained a request for support in encouraging the respondents-COA employees with assigned government agencies located in Iligan City- to participate and to take time to answer the attached questionnaire, either through online or in hardcopy at their convenience. Also, it contained a request to secure a list of the names of the COA employees with respective assignments from the Human Resource department.

Further, since the COA auditor's workloads were heavy, advance verbal communication was done during the different seminars to be conducted by the regional office and asking them permission to allow to conduct a survey regarding the research study topic, during their free time. It was mentioned that approved questionnaires were sent to either through their Facebook/ email account or through hard copy sent personally to them. This was to let them refresh their knowledge on government procurement beforehand.

Main Procedure

The primary data gathering instrument was the questionnaire only. This was composed of four parts. The first part will encompass the knowledge of the respondents on the policy/ measures on lowest bid rule.

Predictors of corruption in government corruption were composed the second part of the questionnaire. The predictors were based on the different experiences encountered by the researcher and from the different experiences by other State Auditors shared during the RA 9184 seminar conducted by the Regional Office. Also, input from articles from internet was considered. The third part covered the perception of the respondents on the statement of the President that lowest bid rule is the root of corruption. And lastly, the fourth part contained the perceived effect of the President Duterte's crucial policy statement as mentioned above.

Through the help of Google Drive- Documents website, an online questionnaire was sent to the respondents especially the Audit Team Members. Hard copy of the questionnaires were delivered personally to those COA auditors who requested it due to poor internet connection in their office.

Out of the Seventy-four (74) questionnaires distributed, combined hardcopy and thru Goggle Drive questionnaire, fifty-seven (57) were successfully completed and returned. Twenty-nine (29) were successfully answered thru the Goggle Drive, while the remaining Twenty-eight (28) were answered thru hardcopy questionnaires.

Method of Data Analysis

In the presentation, analysis, and discussion of the findings, only the popular and simple statistical methods were used. These include the frequency counts which is adopted in getting the raw scores for every variable; percentage analysis, which was employed in getting the percentage distribution of the variable; and the mean score analysis in getting the central tendency score of every variable. This was because the study as a whole, is of descriptive in nature. The questionnaire contained questions which were analyzed along with simple methods. Thus, variance in terms of responses were clearly explained through frequency counts, percentage distribution, mean score analysis, and weighted mean method.

Result, Conclusions and Recommendations

Result

In general, this paper attempted to determine the perception of COA Auditors of Lanao del Norte on the issues, challenges, and effects of lowest bid rule on procurement corruption, in order to minimize corruption.

Specifically, it was aimed: (1) to find out the socio-economic profile of the respondents in terms of the audit group/sector he/she belongs and respondent's current position; (2) to determine the extent of knowledge of the respondents on the measures set by the Government Procurement Policy Board (GPPB) through lowest bidding to ensure a quality contract output; (3) to identify the conditions conducive to corruption in the bidding for government procurement contract; (4) to know the perception of the respondents on effects of lowest bid rule on government procurement; and (5) to determine policy measures and procedures that can be formulated to minimize corruption as perceived by COA Auditors.

This study has fifty-seven (57) respondents who were randomly selected through systematic random sampling for those COA auditors in Regional Office No. X whose official station is outside the province of Lanao del Norte but with assigned audited government agencies located within the province of Lanao del Norte, including city of Iligan. For those COA auditors whose official station is within the Province of Lanao del Norte, complete enumeration was used. Accordingly, there are 35 out of 41 state auditors responded to the questionnaire. Only 6 refused to respond for some valid reasons.

The main data gathering instrument was the questionnaire. Further, because this study is descriptive in nature, only applicable statistical methods like frequency counts, percentage distribution, mean score analysis, and weighted mean method were employed in the analysis of the findings.

The following findings were drawn from the study:

1. Majority of the respondents were assigned at Corporate Government Sector, numbering 20 or 35.09%, and followed by the Local Government Sector, numbering 19 or 33.33%. This includes 35 out of 41 state auditors whose official station is within the province of Lanao del Norte, including Iligan City;

2. Majority of the respondents were Audit Team Members numbering 42 or 73.69% while there were only 14 or 24.56% Audit Team Leader; and there was 1 Supervising Auditor;

3. Majority of the respondents (about 89%) believed that the lowest bid submitted during the opening of bids does not automatically receive the right to government contract. Further, majority of the respondents believed that the lowest bid is still subject for further evaluation;

4. All the respondents believed that in order to be declared as the LCRB, the lowest bidder should meet all the requirements of RA9184 and all specified in the Bidding Documents prepared by the management;

5. Also, respondents (about 89%) believed that the bid amount offered by the bidders should not exceed the Approved Budget of the Contract (ABC). The ABC shall be the upper limit or ceiling for acceptable bid prices. If a bid price, as evaluated and calculated in

accordance with this IRR, is higher than the ABC, the bidder submitting the same shall be automatically disqualified;

6. With regard to the governing principles or purpose of the RA9184, majority of the respondents believed that lowest bid rule promotes fair and open competition; promotes simplicity on the bidding process; and either delivers goods and performs infrastructure projects with quality. However, there were still respondents (ranging to 25% to 32%) believe the opposite. The procurement process shall be simple and made adaptable to advances in modern technology in order to ensure an effective and efficient method. However, some respondents believed that the lowest bid rule does not meet principles that the IRR should attain;

7. Further, majority of the respondents (about 63%) do not believed that the lowest bid rule avoids collusion among bidders and avoids fraud and corruption. Hence, this implies that the respondents, being one of the monitoring and evaluating team for the procurement process, believed that there are many deficiencies noted in the procurement of the government agency. Collusion among bidders, fraud and corruption are existing in the current state of the country, despite the RA9184 prescribing the necessary rules and regulations for the modernization, standardization, and regulation of the procurement activities of the government agencies;

8. Majority of the respondents (ranging to 75%- 88%) believed that the nine out of ten of the following indicators were conducive of corruption in the government procurement, such as: (1) request of variation orders (change order or extra work order) which exceeds 10% of the original contract price; (2) amendment of Bid Documents not covered by Supplemental Bid Bulletin; (3) delays in meeting project duration; (4) same set of contractors/ suppliers bids to the different projects of the agency within a year; (5) awarding of contract to lowest bidder but found out to be noncompliant with one or more requirements in RA 9184 and specifications stated in the bidding documents; (6) frequent visitation of contractors/ suppliers to office of the BAC or TWG members; (7) Notice of Award, signed contracts, and Notice to Proceed not posted in the PhilGEPS, agency website, and in a conspicuous place certified by Head of BAC Secretariat; (8) incomplete construction of infrastructure projects; and (9) unsatisfied end-users due to low quality goods delivered, too far from the cost of the contract;

9. About 61% of the respondents believed that complaints from non-winning bidder is not conducive of corruption. However, 39% of the respondents believed in the opposite side. This is for the reason that not all complaints from the losing bidder can lead you to a conclusion that corruption or collusion exist. As long as the agency can justify the result of the procurement, problem will not occur;

10. Majority of the respondents disagreed with the positive effects of lowest bid rule enumerated in the study, which in effect supports the statement of the President Duterte that the lowest bid rule is the root of corruption because it comes at the expense of the quality of the projects. It is evidenced by the pessimistic outlooks or effects listed which were answered negatively (disagree). These positive effects were: (1) results to best value for money project, (2) avoids fraud and corruption, (3) avoids collusion among bidders, and (4) not a root of corruption. Those mentioned effects were issues still in question and cannot be easily proven because it will result to corruption. However, in terms of the following effects such as encourages fair and open competition; ensures lowest cost for a project, which is advantageous

to the government; and simplifies procurement process which are mere principles of the RA 9184 and its 2016 Revised IRR, the respondents agreed on this pessimistic outlook;

11. However, majority of the respondents disagreed also with the negative effects of the lowest bid rule with an over-all weighted average of 2.05. This was substantiated by the fact that majority of their perceived effects on lowest bid rule were positive. As an evidence to this, from 8 negative statements enumerated, only 5 was not agreed by the respondents, and these are: (1) incorporates many change orders which increases overall project cost; (2) allows subcontracting without making them accountable; (3) underestimates costs and over-estimates benefits to get project approved without adequate justification; (4) encourages unqualified bidders in the competition but discourages qualified bidders who can deliver best performance; (5) results to lack of allocated funds for maintenance, where new project shall be recommended. These positive views of the respondents are attributable to the strict implementation of the procurement law in the Philippines. Further, it is not only the lowest bid (contract price) offered by different bidders that will matter. The winner with the lowest bid in the opening of bids is still subject for post-qualification stage. Bidding documents submitted will still be evaluated thoroughly whether it qualifies to all the requirements of the RA 9184 and its 2016 Revised IRR and to the bidding documents prepared by the agency.

12. Hence, based on the findings above, those instances which are uncontrollable by the agency or those rules not specifically mentioned in the Revised IRR are possible effects of lowest bid rule prone to corruption;

13. Majority of the respondents believed that the following top three (3) recommendations will help to minimize procurement corruption, these are: (1) system of penalties should be strictly imposed and implemented for delays on scheduled completion of projects. Debarring the firm should be implemented for committing several delays in project completion; (2) for agency to prepare a cost and benefits analysis of each project and reject not so beneficial project; and (3) set up an independent monitoring system that will check contract implementation, aside from COA.

14. Only 27 out of 57 (ranked 8th) agreed on the proposed alternative method of President Duterte that instead of Lowest Bid Method, Swiss challenge method should be adopted, wherein agency will accept competing bids from other parties who can present a better deal compared to original proposal with the proponent later on is also entitled to make another offer. However, this proposal would need Congressional action; and

15. Only 13 out of 57 respondents agreed with the statement that lowest bid rule is effective and efficient already. This finding indicates that majority of the respondents believed that RA 9184 needs more revision, especially in terms of its implementation to lowest bid rule. More deficiencies were noted by many respondents during their audit of different contract on goods and infrastructures.

Conclusions

From the findings of the study, the following conclusions are hereby drawn:

1. The respondents agree on the lowest bid rule qualifications, but not limited to the following: (1) lowest bid submitted during the opening of bids does not automatically receive the right to government contract. It is still subject for further evaluation; (2) in order to be

declared as the Lowest Calculated Responsive Bid, the lowest bidder should meet all the requirements of RA9184 and all specified in the Bidding Documents prepared by the management; (3) the bid amount offered by the bidders should not exceed the Approved Budget of the Contract (ABC); (4) lowest bid rule promotes fair and open competition; (5) promotes simplicity on the bidding process; (6) either delivers goods and performs infrastructure projects with quality. However, respondents do not believe that the lowest bid rule avoids collusion among bidders; and avoids fraud and corruption.

2. The respondents believe that the following indicators were conducive of corruption in the government procurement, such as: (1) request of variation orders (change order or extra work order) which exceeds 10% of the original contract price; (2) amendment of Bid Documents not covered by Supplemental Bid Bulletin; (3) delays in meeting project duration; (4) same set of contractors/ suppliers bids to the different projects of the agency within a year; (5) awarding of contract to lowest bidder but found out to be noncompliant with one or more requirements in RA 9184 and specifications stated in the bidding documents; (6) frequent visitation of contractors/ suppliers to office of the BAC or TWG members; (7) Notice of Award, signed contracts, and Notice to Proceed not posted in the PhilGEPS, agency website, and in a conspicuous place certified by Head of BAC Secretariat; (8) incomplete construction of infrastructure projects; and (9) unsatisfied end-users due to low quality goods delivered, too far from the cost of the contract; However, not in terms of complaints from non-winning bidder. For as long as the agency can justify the result of the procurement, problem will not occur;

3. This study disagrees with the positive effects of lowest bid rule enumerated in the study. It is evidenced by the pessimistic outlooks or effects listed which were answered negatively (disagree). These positive effects were: (1) results to best value for money project, (2) avoids fraud and corruption, (3) avoids collusion among bidders, and (4) not a root of corruption. However, not in terms of the following effects such as encourages fair and open competition; ensures lowest cost for a project, which is advantageous to the government; and simplifies procurement process.

4. This study disagrees with the negative effects of the lowest bid rule and these are: (1) incorporates many change orders which increases overall project cost; (2) allows subcontracting without making them accountable; (3) underestimates costs and over-estimates benefits to get project approved without adequate justification; (4) encourages unqualified bidders in the competition but discourages qualified bidders who can deliver best performance; (5) results to lack of allocated funds for maintenance, where new project shall be recommended. These positive views of the respondents are attributable to the strict implementation of the procurement law in the Philippines.

5. Those instances which are uncontrollable by the agency or those rules not specifically mentioned in the Revised IRR are possible effects of lowest bid rule which are prone to corruption;

6. The following are the top three (3) recommendations that will help to minimize procurement corruption, and these are: (1) system of penalties should be strictly imposed and implemented for delays on scheduled completion of projects. Debarring the firm should be implemented for committing several delays in project completion; (2) for agency to prepare a cost and benefits analysis of each project and reject not so beneficial project; and (3) set up an independent monitoring system that will check contract implementation, aside from COA; and

7. The findings of the study indicates that majority of the respondents believe that RA 9184 needs more revision, especially in terms of its implementation to lowest bid rule. More deficiencies were noted by many respondents during their audit of different contract on goods and infrastructures

Recommendations

Based on the findings and conclusions of the study, the researcher recommends the following:

1. The different government agency heads should see to it that strict compliance with Republic Act No. 9184 and its 2016 Revised Implementing Rules and Regulation should be followed;
2. Strict implementation of the penalties should be imposed with the contractors who incurred delay in the completion of the performance or if the quality of the infrastructure/goods is substandard;
3. For the different government agency head to be a role model and sample of person with integrity, accountability, and responsibility; If the head of the agency is strict, everybody will follow;
4. For the different government agency head to instruct all the employees of the agency, especially those assigned to procurement, to be cautious of any irregularities and make the agency procurement transactions corrupt-free;
5. For the Government Procurement Policy Board (GPPB) to make a resolution requiring all the government agencies a cost and benefit analysis report, especially for infrastructure projects and large amount of goods, included in the Annual Procurement Plan (APP). This should be attached together with the indicative APP to be submitted during the budget preparation stage, to further evaluate the much-needed projects or goods;
6. For the GPPB to make a resolution allowing claim for honorarium to the allowed observers during the different procurement stages. This will motivate and give them interest to attend the said procurement;
7. For the GPPB and the government to make guidelines for whistleblowers, especially in securing their safety and steps in reporting corrupt-prone projects;
8. For the government, especially the President, to give rewards to any whistleblowers for any validated projects conducive of corruption;
9. The study can be extended to other areas in the Philippines where perception of other COA Auditors will be gathered on this matter.

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ENHANCING SOFT SKILLS AMONG POLYTECHNIC ESL STUDENTS THROUGH VIDEO SIMULATION

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Abstract: *In a highly competitive work setting, employers are looking for graduates with relevant soft skills to be successful in the workplace. Within the Malaysian context, graduates are generally lacking in soft skills such as critical thinking, teamwork, communication, and leadership skills. Realizing the importance of soft skills, the Malaysian polytechnic curriculum has incorporated vital soft skills besides technical knowledge to produce graduates who can contribute to the local and global economy. To achieve this ambition, the curriculum promotes multiple learning methods. Among them is learning via video simulation. The question is does video simulation help students to enhance their soft skills? This study explored the perceptions of polytechnic ESL students in using video simulation to enhance their soft skills and gain insights into this learning method. A quantitative approach was utilized to collect data for this study through a questionnaire survey that contained closed and open-ended questions to gather feedback from respondents (n=80). The participants for this study consisted of semester one engineering students taking a new technical English course. The data collected from the survey was analysed using descriptive statistics (mean and standard deviation). The results indicated that participants had a positive outlook on using video simulation to enhance their soft skills, including communication, teamwork, and leadership. It is recommended the simulation technique be combined with various teaching and learning strategies to create a comprehensive approach that aids students in boosting their proficiency in the target language while also developing their soft skills to tackle the challenges of the job market once they graduate.*

Keywords: *Soft Skills, Video Simulation, Polytechnic, ESL, TVET*

Introduction

In the current globalized and fast-changing work environment, employers are looking for graduates with vital soft skills like communication, teamwork, critical thinking, and problem-solving for career progression (Pazil & Razak, 2019, Noah & Abdul Aziz, 2020). Soft skills are interpersonal attributes, social skills, emotional intelligence, and communication skills that enable individuals to work effectively with others (Olena Tyschenko, 2023).

For students enrolled in Malaysia's polytechnic system, honing these skills is especially important as they get ready to enter a competitive job market, where employers are increasingly looking for graduates who can adapt to varied work settings, work collaboratively, and convey their ideas effectively in both local and international situations. Polytechnic students typically engage in vocational and technical education, which prioritizes practical skills. It is essential for these students to develop soft skills that enhance their technical knowledge, ensuring they become well-rounded professionals who can succeed in the workplace. Employers are

increasingly looking for graduates with specific soft skills such as creativity, leadership, communication, teamwork and critical thinking to be successful in the desired jobs (Patacsil & Tablatin, 2017).

Malaysian Polytechnics, as providers of Technical and Vocational Education and Training (TVET), have acknowledged the increasing relevance of soft skills for employability and are integrating them into the curriculum in the form of a soft skills course (Ismail et al., 2017). Hence, polytechnic students would gain technical knowledge and cultivate soft skills relevant to the needs of the industries. In addition, various innovative teaching and learning techniques like simulations have surfaced as effective means to bolster the development of soft skills among students. A new technical English course has been introduced in the Malaysian Polytechnic curriculum for the 1st 2024/2025 academic session to enhance engineering students' English proficiency level. One of the assessments for this course is creating a simulation in the form of a video. The simulation learning method may allow students to participate in realistic scenarios, offering a distinctive chance for polytechnic ESL students to hone their soft skills in a secure and controlled environment.

According to Dale & Elise (2017), simulation is an experiential instructional method that can be created to imitate or replicate actual events, problems, procedures, or skills to achieve the desired instructional results. Furthermore, simulation as a teaching strategy aligns well with the principles of constructivist teaching and learning theory and can be designed for social and physical learning experiences to fit the needs of all learners. Aisyah Mohd Khalil *et al.* (2024) stated that simulation-based learning has become an important tool used by higher education institutions to facilitate and enhance the learning experience.

Video simulations present an immersive, hands-on approach to learning that aligns with the experiential nature of polytechnic education. These simulations can recreate complex, real-world situations in which students can interact, solve problems, and receive immediate feedback on their performance. Simulation helps learners improve non-technical workplace skills, such as effective communication, teamwork, collaboration, decision-making, and problem-solving (Lateef, 2019).

Within the Malaysian polytechnic context, students can practice video simulations, refine their soft skills, and develop a deeper understanding of how these skills manifest in practical, professional settings. As technology becomes increasingly integrated into education, the potential for video simulations to enhance soft skills development among polytechnic ESL students is becoming a focal point of research and practice.

The use of video simulation as a tool for soft skills training is examined considering its potential to improve student engagement, foster critical thinking, and prepare students for the challenges of the modern workforce. However, past research is lacking in the use of video simulation in enhancing soft skills among ESL students. Hence, the main aim of this study is to determine students' perceptions of enhancing their soft skills through video simulation.

This study examines the role of soft skills in the education of Malaysian polytechnic ESL students, the importance of integrating soft skills development into their curricula, and how video simulations can serve as an innovative pedagogical tool to enhance these competencies. The research questions of this study:

1. What are students' perceptions of using video simulation in enhancing their soft skills?

2. What is the level of students' perceptions of using video simulation in enhancing their soft skills?

Literature Review

The Importance of Soft Skills for ESL Students

The development of soft skills such as communication, teamwork, problem-solving, emotional intelligence, and leadership has become an increasingly important aspect of education worldwide, particularly for learners of English as a Second Language (ESL). Boonmoh & Chanchay (2024) in their studies have identified communication skills, technology literacy, and collaboration and teamwork as the three most utilized soft skills to improve language proficiency. For TVET students who are learning English as a second language, soft skills are crucial not only for academic success but also for personal development and employability in a globalized economy. This literature review aims to examine the role of soft skills among Malaysian ESL students, focusing on how these skills impact language acquisition, academic performance, and future employability. Additionally, it explores the challenges Malaysian ESL learners face in acquiring soft skills, and the pedagogical strategies that have been proposed or implemented to enhance these competencies.

Communication Skills

Effective communication is a core soft skill that students need to develop for both academic success and career prospects. In Malaysia, where English is widely used in both the educational and professional sectors, proficiency in communication is particularly crucial. According to Abdul Rahman & Maarof (2018), the role-play and simulation approach can assist students to enhance their oral communication skills. Furthermore, in the workplace, English is often the lingua franca, and employers value graduates who can communicate effectively with both local and international colleagues.

On the other hand, it is common knowledge that communication skills in English among Malaysian students are particularly weak, especially in speaking. Kashinathan & Aziz (2021) conducted systematic reviews on ESL learners' challenges in speaking English in the Malaysian classroom. The reviews revealed that the main obstacles to ESL learners' speaking skills are a lack of motivation and self-confidence, anxiety, inhibition, and limited vocabulary knowledge. To counter these predicaments, effective teaching and learning strategies are needed to help ESL students to improve their speaking abilities. Authentic communication activities ought to be provided to help ESL students be more confident in using the target language. Communication skills is one of the most important components in the soft skills course developed for Malaysian polytechnic students (Ismail et al., 2017). This is to produce highly skilled workforce as envisioned in the Malaysia Education Blueprint 2013-2025 (Ministry of Education Malaysia, 2013).

Teamwork and Collaboration

Teamwork is another key soft skill emphasized in Malaysian Technical Education and Vocational Training (TVET) education, particularly as it fosters cooperative learning and prepares students for the collaborative nature of most modern workplaces. Hisyam Mohd. Hashim (2015) stated that the soft skill of teamwork is one of the important elements for securing a job. Effective teamwork requires students to use language to negotiate, problem-solve, and coordinate tasks, all of which are essential components of language acquisition and

practical language use. Hence, students who actively engage in group projects often develop stronger teamwork and communication skills, contributing to their overall academic success and employability.

Problem-Solving and Critical Thinking

Problem-solving and critical thinking are fundamental soft skills that enable students to analyse situations, evaluate different perspectives, and come to reasoned conclusions. These skills are essential for interpreting texts, responding to assignments, and engaging in intellectual discussions. Critical thinking is an essential soft skill that graduates must develop to tackle real-world challenges as they address problems and make important decisions related to their work productivity (Johan et al., 2023). Malaysia's education system places increasing emphasis on the development of these higher-order thinking skills (HOTS), which require students to move beyond rote memorization and engage in more meaningful learning to produce critical-thinking individuals who can meet the demands of the 21st-century industry (Singh & Marappan, 2020).

Emotional Intelligence

Emotional intelligence (EQ), which encompasses self-awareness, self-regulation, empathy, and social skills, is increasingly recognized as an essential soft skill for both academic and professional success. Kumar and Sharma (2019) mentioned that EQ encompasses the personal and social skills necessary for individuals to handle their emotions and improve their effectiveness in the workplace. In Malaysia, where multiculturalism is a defining characteristic of society, emotional intelligence plays a critical role in navigating complex social dynamics. For ESL learners, EQ is vital for managing the stress of language acquisition, interacting with peers from diverse backgrounds, and handling the emotional aspects of academic and social integration.

Challenges Faced by Malaysian ESL Students in Developing Soft Skills Language Barriers

For many Malaysian ESL students, the primary barrier to developing soft skills is language proficiency. While English is taught extensively in schools and universities, many students struggle with fluency and confidence, particularly in speaking and writing. As a result, these students may avoid participation in group discussions or face difficulties in expressing their thoughts clearly during presentations or collaborative tasks. One learning method to counter this is through simulation and role-play. Lutfi et al. (2018) revealed in their studies that students improved their speaking abilities through simulation and role-play. Furthermore, simulation learning methods can provide lessons that are relevant, enjoyable, and useful (Tatjana Marković & Vesna Jakanović, 2024).

Lack of Structured Soft Skills Training

Although soft skills are recognized as essential attributes in Malaysia Education Blueprint, there is still a lack of structured, formal training that specifically targets the development of soft skills among ESL learners. ESL students often receive instruction focused on language proficiency, grammar, and vocabulary, with less emphasis on soft skills. David & Saeipoor (2018) stressed in their study that universities need to develop strategies to enhance soft skills teaching and learning in a training program whereby undergraduates are aware of how these

skills are evaluated. Hence, they would be more motivated to develop their soft skills. Dean & East (2019) in their study suggested that soft skills training programs ought to include a focus on individual needs, group and individual training, and training on effective communication.

Pedagogical Approaches to Enhancing Soft Skills in Malaysian ESL Students Task-Based Language Teaching (TBLT)

Task-Based Language Teaching (TBLT) is an effective approach for integrating soft skills into ESL education. TBLT emphasizes the use of authentic tasks and real-world scenarios where students must use language actively and collaboratively. This approach not only helps improve language proficiency but also fosters skills such as problem-solving, teamwork, and communication. Engineers need these soft skills to be successful on the job as they deal with complex work scenarios (de Campos et al., 2020).

Within the Malaysian polytechnic context, the new DUE10062 Technical English course incorporates TBLT to provide engineering students with authentic task and real-world situations to cultivate their soft skills such as communication, teamwork and problem-solving skills.

Methodology Design

This study employed a quantitative design whereby the questionnaire survey method was utilized to gather the data of students' responses towards the use of video simulation in enhancing their soft skills.

Participants

The participants for this study were 80 semester one engineering students from a polytechnic in Sarawak who were taking the new DUE10062 Technical English course. The purposive sampling method was used in the study as the students were readily available from the researchers' English classes. Three semester-one engineering classes were selected for this study (two electrical & electronic programs & one mechanical program). They volunteered to participate in the questionnaire survey of this study.

Instruments

The instrument for this study included a questionnaire consisting of 10 closed questions with a five-point Likert scale with the following rating: (1) strongly disagree, (2) disagree, (3) somewhat agree, (4) agree and (5) strongly agree. In addition, there were two open-ended questions. The survey would elicit students' responses on their perceptions towards the use of video simulation in enhancing their soft skills. The reliability of the question items for this study has a Cronbach's Alpha value of 0.9. According to Taber (2018), a score of 0.7 and above is considered good, that is, the scale is internally consistent. The questionnaire was created in Google Form format and administered to participants of this study via the WhatsApp Messenger.

Data Analysis

The data collected through the questionnaire survey were analysed using IBM SPSS Statistics Version 22. Means and standard deviations were tabulated to gain insights into students' perceptions of using video simulation to enhance their soft skills.

Pedagogical Approach

The new DUE10062 Technical English course incorporates Task-Based Language Teaching (TBLT) to provide engineering students with authentic tasks and real-world situations related to their field of study and cultivate their soft skills using the targeted language.

Preparation

In implementing this study, students attended their normal learning periods in the classroom. They were taking the new DUE10062 Technical English course. Based on the syllabus, students were given lessons on objects or products used in engineering-related contexts for a duration of four weeks. Specifically, students are taught how to enquire about the details of objects or products verbally either in person or through various communicative tools such as smartphones and messaging apps. At the end of the topic, students were tasked with completing their simulation assessment in the form of a video. For this assessment, students were guided on the requirements of the task given. For preparation, students were facilitated in planning for the creation of the video simulation which included storyboarding, script writing, equipment selection, location scouting, and editing their videos using editing software. The Course Learning Outcome (CLO) for this task would be to share effective communication skills in making and responding to enquiries related to a well-defined engineering activity. Students formed their groups (four members in each group) and were given 2 weeks to complete their video simulation.

Debriefing

The primary objective of the de-brief is to give students the opportunity to reflect on the simulation-based exercise. In addition, the debriefs could also be used to get student feedback and recommendations for future iterations of the exercise. Once the video simulation was completed, each group shared their video simulation in class. By sharing their video simulation, students would provide feedback and learn from each other regarding the contents and purpose of the simulations. Class lecturers guided the discussions to gain insights into how students enhance their soft skills such as communication, collaboration, teamwork, problem-solving, and leadership. At the end of the debriefing, students would later volunteer to complete the questionnaire survey.

Results and Discussion

Research Question 1: What are students' perceptions of using video simulation in enhancing their soft skills?

Table 1 Descriptive Analysis for Mean and Standard Deviation for Question Items

Item	Mean (M)	Std. Deviation (SD)
1. I would brainstorm ideas during the planning stage with my team members before creating the video simulation	4.25	0.803

2. I have learned how to use video editing software in editing the video simulation	4.28	0.766
3. I would ask my team members for feedback regarding the contents of the video simulation	4.40	0.648
4. I am proficient in using video editing software to create a professional-looking video simulation	4.06	0.832
5. I have increased my self-confidence when participating in the video simulation	4.17	0.759
6. I have learned leadership skills while participating in the video simulation	4.07	0.882
7. I feel more confident in myself in the video simulation as I can apply the language skills that I have learned in real-world situations	4.17	0.725
8. I have learned how to cooperate and work together as a team during the video simulation	4.45	0.614
9. I have learned to improve my communication skills in English while participating in the video simulations	4.38	0.646
10. I have learned to express myself more clearly using appropriate expressions or vocabulary while participating in the video simulations	4.17	0.742

Based on Table 1, the results showed that students were highly positive in using video simulation to enhance their soft skills, particularly in communication, critical thinking, teamwork, and leadership abilities. Item no. 8 has the highest mean of 4.45 with a standard deviation of 0.614. The majority of students agreed that they had learned how to cooperate and work together as a team during the video simulation process. Hisyam Mohd. Hashim (2015) in his study of teamwork skills, mentioned that the soft skill of teamwork is one of the important elements for securing an employment. Item no. 3 has the second highest mean of 4.40 with a standard deviation of 0.648. Most of the students would ask their team members for feedback regarding the contents of the video simulation.

Item no. 9 has the third highest mean of 4.38 with a standard deviation of 0.646. The majority of students viewed that they had learned to improve their communication skills in English while participating in the video simulations. This concurred with the study done by Lutfi et al. (2018) that students improved their speaking abilities through simulation and role-play.

For item no. 1 (M:4.25; SD:0.803), the majority of students felt the need to brainstorm ideas during the planning stage with their team members before creating the video simulation. Brainstorming is a tool that leverages critical thinking skills, especially when it comes to idea generation, problem-solving, and collaborative creativity. While brainstorming promotes open-ended thinking and creativity, critical thinking as a soft skill helps guide that creativity in students. Johan et al. (2023) revealed in their study that critical thinking is a very important soft skill that tertiary students should develop to face real world challenges once they graduate. Considering the outcome of item no. 1, it is suggested that instructors utilize a variety of brainstorming techniques to strengthen students' critical thinking abilities.

Items no. 2 (M:4.28; SD:0.766) and no. 4 (M:4.06; SD:0.832) are related to the use of technology. The majority of students agreed that they have learned how to use video editing software in editing the video simulation and are proficient in using the software to create a

professional-looking video simulation. The use of technology can be categorised under digital literacy. Even though digital literacy has the elements of hard skills, soft skill attributes such as critical thinking and problem-solving are present in the process which enables students to edit their video simulation proficiently. Ismail et al. (2017) stated that technology skills are one of the six soft skills that Malaysian polytechnic students need to master to be a competent graduate.

Item no. 3 (M:4.40; SD:0.648) is related to feedback. The majority of students would ask their team members for feedback regarding the contents of the video simulation. Simulations also encourage self-reflection, as learners can review their performance, assess their responses, and consider alternative approaches. This reflective process supports the development of both language proficiency and critical thinking skills. Video simulations allow learners to repeatedly engage with scenarios, experimenting with different responses and learning from each experience.

Item no. 5 (M:4.17; SD:0.759) and no. 7 (M:4.17; SD:0.725) are related to confidence level. The majority of students believed that their self-confidence increased when participating in the video simulation and can apply the language skills that they have learned in class to real-world situations. They were able to express themselves more clearly after doing several practices for their video simulation.

Item no. 6 (M:4.07; SD:0.882) is related to leadership. The majority of students were of the view that they had learned leadership skills while participating in the video simulation. This is evident from the video simulation they produced where each member is given a role to play. Team members who are proficient in the target language would lead the others to make the simulation an enjoyable experience for all.

Items no. 9 (M:4.38; SD:0.646) and no. 10 (M:4.17; SD:0.742) are related to communication skills. The majority of students agreed that they have learned to improve their communication skills in English by expressing themselves more clearly using appropriate expressions or vocabulary while participating in the video simulations. In a systematic review of the perspectives of Asian employers on graduates' soft skills, Pazil & Che Razak (2019) stated that soft skill in communication is highly sought after by employers when hiring graduates.

Research Question 2: What is the level of students' perceptions of using video simulation in enhancing their soft skills?

Table 2 Students' Level of Perceptions in Using Video Simulation to Enhance Soft Skills

Item	Mean (M)	Std. Deviation (SD)	Level
1. I would brainstorm ideas during the planning stage with my team members before creating the video simulation	4.25	0.803	High
2. I have learned how to use video editing software in editing the video simulation	4.28	0.766	High
3. I would ask my team members for feedback regarding the contents of the video simulation	4.40	0.648	High
4. I am proficient in using video editing software to create a professional-looking video simulation	4.06	0.832	High

5. I have increased my self-confidence when participating in the video simulation	4.17	0.759	High
6. I have learned leadership skills while participating in the video simulation	4.07	0.882	High
7. I feel more confident in myself in the video simulation as I can apply the language skills that I have learned in real-world situations	4.17	0.725	High
8. I have learned how to cooperate and work together as a team during the video simulation	4.45	0.614	High
9. I have learned to improve my communication skills in English while participating in the video simulations	4.38	0.646	High
10. I have learned to express myself more clearly using appropriate expressions or vocabulary while participating in the video simulations	4.17	0.742	High

Table 2 shows the level of students' perceptions of using video simulation in enhancing their soft skills. The results clearly indicate that the participants of this study viewed highly of using video simulation in enhancing their soft skills particularly communication, teamwork and leadership. These findings reinforced the earlier discussion for the first research question of this study.

Open-ended Questions

i) *What is the main challenge that you faced when participating in the video simulations?*

Based on analysis of the responses, the challenges faced by students were largely centred around personal barriers such as confidence, nervousness, and memorization; group dynamics such as communication issues and team collaboration; and finally technical constraints namely time, location, and editing. To improve the overall experience, addressing these issues proactively through planning, practice, and effective communication can help create smoother video production processes. Lecturers can assist students by focusing on building confidence, improving technical skills, and creating a supportive environment. Thus, participants can overcome these challenges more easily.

ii) *What did you learn the most when participating in the video simulation?*

From the feedback provided, several key trends emerge regarding what participants learned and gained through their involvement in video simulations. These insights primarily focus on communication, teamwork, confidence, and new skills acquisition.

The video simulation process was a rich learning experience, helping participants develop both technical and interpersonal skills. They gained confidence, enhanced their communication abilities, and learned how to work effectively within a team. These simulations not only fostered practical skills in video creation and editing but also helped participants develop a professional mindset and adaptability that will be useful in future real-world scenarios. Tatjana Marković & Vesna Jokanović (2024) stated that simulation learning methods can provide lessons that are relevant, enjoyable, and useful. In essence, simulations promote enthusiasm, encouraging effort and motivation in both students and lecturers.

The creativity of the students in creating their video simulation was obvious when they shared it in the classroom. Through the video simulations shown in the class, students performed their roles with enthusiasm. According to Chernikova et al. (2020) simulation-based learning provides a variety of opportunities to practice complex skills and to implement different types of scaffolding to facilitate effective learning.

Conclusion

The findings of this research indicated that students had a favourable perception of using video simulations to improve their soft skills. Essential soft skills, including communication, teamwork, problem-solving, and leadership, are vital for the academic and professional achievements of polytechnic ESL students. Instructors can design a range of simulations to enhance students' soft skills pertinent to technical English communication. However, challenges may arise due to language barriers and the absence of a structured approach to soft skills training. These factors may necessitate additional investigation. Moreover, future studies could explore the perspectives of lecturers on how to help students enhance their soft skills through simulation techniques. Action research on simulation learning strategies using blended platforms may enrich further students' learning experience. It is advisable to integrate the video simulation method with various teaching and learning strategies to bolster students' soft skills.

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UNDERSTANDING TAX NON-COMPLIANCE INTENTION AMONG SME OWNERS IN MALAYSIA: THE IMPACT OF DENIAL OF RESPONSIBILITY AS MODERATOR

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Abstract: *Small and medium enterprises (SMEs) are pivotal to Malaysia's economic framework, significantly contributing to national income. However, tax non-compliance among SME owners remains a subject of ongoing debate. Addressing this issue requires consideration beyond the economic perspective, encompassing non-economic views as well. This study seeks to empirically extend the Theory of Planned Behaviour (TPB) by incorporating the concept of neutralisation techniques to evaluate the relationships between TPB constructs, denial of responsibility and tax non-compliance intention. Additionally, it investigates the moderating effect of denial of responsibility. A survey was conducted, distributing questionnaires randomly to 580 SME owners in Malaysia, resulting in a 72.8% response rate. Data were analysed using the PLS-SEM statistical tool. The findings indicate that attitude towards tax non-compliance and subjective norms significantly and positively influence tax non-compliance intention, whereas perceived behavioural control shows a negative influence. Furthermore, the positive relationship between subjective norms and tax non-compliance intention weakens when SME owners employ the denial of responsibility technique. These results offer significant theoretical and practical implications, providing valuable insights for academicians, policymakers, and tax authorities in formulating strategies to address tax non-compliance among SME owners. Suggestions for future research are also highlighted.*

Keywords: *Tax Non-compliance Intention, Denial of Responsibility, SME Owners, Theory of Planned Behaviour, Theory of Neutralisation*

Introduction

Small and medium enterprises (SMEs) are widely acknowledged as the backbone of Malaysia's economy, playing a pivotal role in generating national income. According to data from the Department of Statistics, Malaysia (DOSM), as reported by the Small and Medium Enterprise Corporation Malaysia (SME Corp.) in August 2023, there were 1,173,601 SMEs registered in Malaysia in 2022. Between 2018 and 2019, SMEs demonstrated consistent performance, contributing approximately 38 to 39 percent to Malaysia's Gross Domestic Product (GDP), thereby emphasizing their critical importance to the national economy. However, the outbreak of the COVID-19 pandemic in 2020 had a substantial negative impact on SMEs, leading to a decline in their GDP contribution from 38.9 percent in 2019 to 38.2 percent in 2020, and further to 37.4 percent in 2021, indicating significant disruptions across all sectors. Despite these challenges, SMEs showed signs of recovery in 2021 and continued to grow in 2022, contributing 38.4 percent to the GDP. This recovery suggests a potential for increased GDP contribution in the coming years. Furthermore, the significant increase in the number of registered SMEs in Malaysia highlights their potential to significantly contribute to national

income, provided they adhere to tax regulations. Compliance with these regulations is crucial for maximising their economic impact. Due to the SMEs' significant contribution to the Malaysia's economy, coupled with the fact that they represent the majority of business taxpayers, it is expected that more income taxes should be collected from this group of taxpayers. Nevertheless, the collection of national tax revenue is directly affected by the taxpayers' level of compliance. Tax authorities, academicians and non-governmental organisations all over the world are concerned about the serious problem of tax non-compliance among SME owners (Newman, Mwandambira, Charity & Ongayi, 2018). Zakaria, Ahmad and Noor (2013) believe that tax non-compliance has been a worldwide phenomenon and has triggered such a huge loss of revenue to governments around the world. Surprisingly, a briefing paper presented by Murphy (2011) on the worldwide tax evasion cost reveals that out of 145 countries included in a survey, Malaysia was 44th worldwide and 11th in Asia. According to Ching (2013), tax non-compliance problems may cause shortfalls to a country's tax revenue and could be categorised as a white-collar crime. According to Mohamad, Zakaria and Hamid (2016), the characteristics and nature of business itself encourage SME owners not to comply with tax requirements. Non-compliance may arise because of the high opportunities to involve in cash business transactions and the possibilities of not to declare them. The SMEs' intention of not being truthful is undeniable since they have huge opportunities to deal with cash transactions, including sales and payments of purchases (Fatt, Ling & Thye, 2009); Morse, Karlinsky & Bankman, 2009). It is not easy for tax authorities to inspect businesses which are heavily based on cash transactions since there is a lack of proper documents to act as evidence (Yusof, Ling & Wah, 2014). Besides that, a study by Mohd Ali (2013) finds that the compliance level of business income taxpayers is at medium to low levels. This is because taxpayers have a high opportunity of avoiding taxes, which appeared to be mostly overlooked by the tax authorities. Mohamad et al. (2016) also find that tax evasion to be highest among micro-and medium-sized SMEs located in suburban areas.

However, the issue should not be seen solely from the economic approach, but it should also be considered from the non-economic view. Attempts to explain individuals' behaviour have incorporated alternative perspectives from the non-economic approach, which include behavioural and psychological factors (Kirchler, Muehlbacher, Gangl, Hofmann, Kogler, Pollai & Alm, 2012). Most of prior tax compliance studies focus on attitude, subjective norms and perceived behavioural control. One of the psychological elements, which explain techniques in minimising individuals' guilt feelings, is also found to be an important influence in explaining behaviour of individuals. Thurman, John and Riggs (1984) argue that the reason for a high tax non-compliance is not solely influenced by the threat of economic deterrence factors or the low taxpayers' moral obligation but also by the guilt feelings. They argue that guilt feelings, one of the non-economic factors from a psychological perspective, may influence taxpayers to be honest in tax reporting. It is believed that taxpayers tend to use some techniques to minimise or neutralise their guilt feelings in dealing with tax matters. However, studies on these techniques have been ignored in explaining tax non-compliance behaviour. Thurman et al. (1984) believe that there is no logical reason as to why the use of these guilt minimising strategies could not be applied to adult deviant behaviours such as tax non-compliance since these techniques have been applied on juvenile and criminal behaviour. Furthermore, neutralisation theory can shed light on tax non-compliance behaviour understanding (Cheng, Li, Zai & Smyth, 2014). Thus, it is beneficial to determine if these techniques can be applied to the determination of the tax non-compliance intention of SME owners.

Considering the identified knowledge gaps, along with the significant contributions of SMEs and the necessity to mitigate tax non-compliance, there are substantial opportunities for further research. Thus, to address the aforementioned issues, this study aims to examine whether factors related to SME owners influence their intention to not comply with tax regulations. In addition to examining the original constructs of the Theory of Planned Behaviour (TPB), this study also explores the impact of the denial of responsibility – one of the techniques used to minimise feelings of guilt – on tax non-compliance intention. Furthermore, this study examines whether the denial of responsibility moderates the relationship between the proposed determining factors and SME owners' tax non-compliance intention.

Literature Review

Attitude towards Tax Non-compliance

Ajzen (1991) defines attitude towards a behaviour as “the degree to which a person has a favorable or unfavorable of an evaluation of a behavior”. Beck and Ajzen (1991), further explain that the more favourable attitude towards behaviour, the stronger the individuals' intention to perform the behaviour under consideration should be. In other words, the more favourable attitude towards non-compliance behaviour, the stronger the intention of non-compliance to perform such behaviour. From the view of tax compliance behaviour, Loo, McKerchar and Hansford (2009) refer attitude towards tax as the level of taxpayers' confidence in managing or assessing their tax matters and this will reflect their attitude towards tax compliance behaviour. Attitude is found to have a significant positive (negative) relationship with tax (non)compliance in Bobek and Hatfield (2003), Buchan (2005), Hai and See (2011), Hamid (2013), Hanno and Violette (1996), Langham, Paulsen and Hartel (2012), Marti, Wanjohi, Magutu and Mokoro (2010), Md Radzi and Ariffin (2022), Nkwe (2013), Saad (2011), Sudiartana and Mendra (2018) and Trivedi, Shehata and Mestelman (2005); and tax evasion in Alleyne and Harris (2017) and Wahyuni, Julianto and Dewi (2019). Attitude as a factor that influences non-compliance behaviour is well supported and the Theory of Planned Behaviour (TPB) also suggests that individuals are more likely to be more compliant if they perceive that they will receive a positive outcome from their compliance behaviour. However, they will be less compliant if they perceive an unfavourable outcome from their behaviour (Ajzen, 1991; Fishbein & Ajzen, 1975; Kirchler, 2007). Thus, Hypothesis 1 is proposed as: *Attitude towards tax non-compliance positively influences the tax non-compliance intention of SME owners.*

Subjective Norms

Ajzen (1991) defines subjective norms as the influence of pressures from perceived referent others, such as family members, employers, friends, spouse, tax preparers, and peers in approving such decisions. According to Beck and Ajzen (1991), in line with the argument put forward in the TPB model, that if referent others approve or perform the behaviour, there is a high possibility that individuals may also perform the behaviour. In other words, it indicates that, if referent others approve of perform that non-compliance action, it will lead to an increase in the tax non-compliance action. Kirchler (2007) states that taxpayers are likely to follow the behaviour of other people that surround them. The signal received from the reference group may influence the compliance or non-compliance level (Jayawardane, 2015). This notion, which is in line with the TPB is supported by Hamid (2013) where it believes that individuals tend to perform such behaviour when the referent others also perform or approve that particular behaviour. Studies by Adimassu and Jerene (2016), Saad (2011), Bobek and Hatfield (2003), Hai and See (2011), Damayanti, Sutrisno, Subekti and Baridwan (2015), Hanno and Violette

(1996), Smart (2012), Md Radzi and Ariffin (2022), Sudiartana and Mendra (2018) and Trivedi et al. (2005) find subjective norms has a positively significant influence on tax compliance behaviour. On the other hand, the study shows insignificant effect of subjective norms and overstates expenses intention. This is in line with Hamid (2013) and Buchan (2005). Alleyne and Harris (2017) and Wahyuni et al. (2019) which finds that the practice of tax evasion by individual taxpayers is not being influenced by subjective norms. Findings from Inasius (2015) finds an insignificant effect of subjective norms in influencing SME owners' tax compliance. The study believes that support from referent others does not impact the tax compliance decisions of SME taxpayers. As a summary, mixed findings have been found regarding taxpayers' behaviour towards tax compliance. With regard to the TPB and interview findings of Hamid (2013) in which the respondents reveal that they also exchange ideas with their colleagues especially in complicated tax cases. They also believe that the level of expertise and experience of their colleagues might influence their decisions. Langham et al. (2012) also believe that subjective norms who possess experiences such as tax agents, bookkeepers and accountants are among the important determinants that enhances the intention of compliance behaviour. It is expected that the tendency of SME owners to involve in tax non-compliance is higher when they obtain strong support from their referent others. Therefore, Hypothesis 2 will be: *Subjective norms positively influence the tax non-compliance intention of SME owners.*

Perceived Behavioural Control

Ajzen (1991) defines perceived behavioural control as an individual control, which refers to "the degree of control of an individual perceives he/she has to engage in a particular behavior". According to Ajzen and Beck and Ajzen (1991), an intention to perform such behaviour could also be influenced by other causes such as the resources availableness and chances to perform such behaviour. From the point of view of tax compliance, Kirchler (2007) explains perceived behavioural control as taxpayers' self-confidence to assess their tax returns in a way which will bring advantage to them. Bobek and Hatfield (2003) explain that perceived behavioural control shows how strong a taxpayer's degree of control is in showing a certain behaviour, such as reporting a lower income, overstating expenses and other tax non-compliance behaviour. Bobek and Hatfield and Stone, Jawahar and Kisamore (2010) find that perceived behavioural control and cheating intention are positively related. This is consistent with tax evasion study by Alleyne and Harris (2017) and Wahyuni et al. (2019). A cross-cultural study in New Zealand and Malaysia by Saad (2011) also finds that perceived behavioural control under the understating income case is negatively related to compliance behaviour. However, it is insignificant under the overstating expenses scenario. Hamid (2013) finds perceived behavioural control is positively related to intention to comply under the case of understating income in New Zealand. However, perceived behavioural control is unable to explain Malaysian taxpayers' compliance intention under the case of understating income. The same findings also found under the overstating expenses case in both countries. Findings of an interview reveal that the possibility of tax agents to have more control is higher in the case of understating cash income than in overstating expenses. This is because small businesses are rarely audited. A study by Sudiartana and Mendra (2018) finds perceived behavioural control to have a positive (negative) significant association with intention to comply (non-compliance). This study reveals that the experience and obstacles encountered by SME owners in Indonesia affect their compliance intention. As behaviour becomes more controllable, the taxpayers' intention to comply becomes greater. In addition, the study finds that the behaviour of SME owners in Bali Province is mostly influenced by their emotion and scepticism towards tax authorities. These emotions and scepticisms may be managed to encourage their compliance behaviour. Md Radzi and Ariffin (2022)'s study on SME owners in Malaysia also find a

negative significant association between perceived behavioural control and tax non-compliance intention. In a study conducted by Bobek and Hatfield (2003), finds that the intention to comply is not being influenced by perceived behavioural control in 'home office expenses' scenario. This is in line with Trivedi et al. (2005), Smart (2012) and Langham et al. (2012). All in all, evidence of the ability of perceived behavioural control to influence tax compliance behaviour is mixed and not well-documented. Although some studies find that perceived behavioural control is significant in explaining cheating and non-compliance behaviour, some other studies find the relationship to be insignificant. Thus, it has been suggested that future investigations be conducted, especially in the tax compliance area (Hamid, 2013). The finding expected that the greater the control of SME owners towards non-compliance, the lower the tendency to involve in tax non-compliance will be. Following the above discussion, Hypothesis 3 will be: *Perceived behavioural control negatively influences the tax non-compliance intention of SME owners.*

Denial of Responsibility

Denial of responsibility is one of the neutralisation techniques or strategies introduces by Sykes and Matza (1957) in Theory of Neutralisation. It is developed with the original intention to explain juvenile crime in the United State of America. Later, the application of the theory has been expanded to adult criminal and social psychological studies. Believing that individuals are aware of their moral obligation, they are expected to obey the laws and the norms of the society. They will not normally engage in immoral behaviours; however, if they perform such behaviour, they will have their reasons in justifying the behaviour. Sykes and Matza further explain that individuals who engage in deviant behaviour will always find ways in neutralising or justifying their guilt feelings towards that behaviour. Various techniques are used to support the behaviour, and as a result, be seen as an acceptable behaviour. Justifications which are acceptable to the individuals are used to neutralise or justify the immoral behaviour to make them feel better (Sykes & Matza, 1957). Besides that, Yang, Sun and Shen (2022) believe that neutralisation technique play an essential role than anger towards indirect revenge behaviour and difficult to be controlled since the technique is inside an avenger's mind.

With regard to tax evasion, the theory has been applied by Thurman et al. (1984). Taxpayers' level of compliance was found to increase when the level of guilt feelings among taxpayers was enhanced. Once they feel guilty, taxpayers would be less likely to manipulate or omit the amount that they should declare in their tax returns. Thurman et al. also claim that since taxpayers have to deal with tax matters only once a year, they may have fewer opportunities to use neutralisation techniques in non-complying with tax requirements. However, the techniques will still be practiced by taxpayers if they view that tax authorities are being inefficient or dishonest in managing taxpayers' money.

The theory has been used in social psychological studies in determining the influence of guilt minimising techniques on the intention to engage in deviant behaviours (for example Barlow, Warkentin, Ormond & Dennis, 2013; Belinda & Hidayat, 2018; Benson, 1985; Cheng, Li, Zai & Smyth, 2014; Harris & Dumas, 2009; Hinduja, 2007; Koay, 2018; Kvalnes, 2014; Kvalnes, 2019; Li, Cheng & Dalian, 2013; Sharma, 2020; Silic, Barlow & Back, 2017; Siponen & Vance, 2010; Thurman et al., 1984; Welch, Xu, Bjarnason, Petee, O'Donnell & Magro, 2005; Yang, Sun & Shen, 2022; Zhou, Li & Zhang, 2022). Due to the universality of the techniques, future studies have been suggested to adopt the neutralisation techniques not only in criminal behaviour studies, but also in other deviant behaviour studies. Even though the suggestion dates back to 1957 by Sykes and Matza and 1984 by Thurman et al., the idea was not fully grabbed,

especially in the area of taxation. The use of the theory in investigating tax non-compliance is still limited. Thus, it is beneficial to determine if these techniques are related to tax non-compliance intention among SME owners. Additionally, it has been demonstrated that adults use the neutralisation techniques in justifying their non-compliance behaviours. The techniques are used not only to maintain a positive image but also to avoid from being punished.

With regards to denial of responsibility technique, it occurs when an individual tries to get rid of or shift the blame or responsibility to external parties or circumstances which are accidental and beyond their control (Sykes and Matza, 1957; Thurman et al., 1984). The individual always sees laws as vague, ambiguous and complex, thus justifying that he or she lacks the knowledge and understanding of the laws (Welch et al., 2005). Blaming higher-level officials also could be a technique of denial of responsibility (Welch et al., 2005). This technique has always been used by individuals to justify that they are not responsible of their deviant behaviour since the uncertainties or situations are beyond their control, thus influencing them to perform the behaviour (Kvalnes, 2019; Rogers & Buffalo, 1974; Silic et al., 2017; Sykes & Matza, 1957). This technique allows individuals to minimise their guilt of performing deviant behaviours (Koay, 2018b). Harris and Dumas (2009) find that denial of responsibility technique is commonly used by individuals after a behaviour has been performed.

Denial of responsibility is found to be important in Harrington's (1996) study of information security employees from nine organisations in the Northeast Ohio. It investigates the effect of using denial of responsibility technique on computer abuse intention and judgment. The study reveals that employees who always use this technique have a greater tendency to engage in computer abuse, in line with their judgment that computer abuse is not wrong. In the study, denial responsibility technique is found to have a positive correlation with intention of non-compliance. The study also finds a positive significant correlation between denial of responsibility and the judgment that non-compliance behaviour is acceptable. A study on consumer purchase intention by Koay (2018) reveals that the tendency of consumers to shift the blame to other external factors is high. The consumers perceive that they are not personally responsible of their action of purchasing counterfeit luxury goods. The study finds that denial of responsibility and intention to purchase counterfeit luxury goods are positively related. Sharma (2020) in his study in understanding students' cyberslacking behaviour also finds that denial of responsibility is positively influence student's intention to use technology in class for non-class related activities. However, denial of responsibility technique in Md Radzi and Ariffin (2023)'s study reveals a significant negative influence on the tax non-compliance intention of SME owners in Malaysia, which indicates that, the more taxpayers keep neutralising that their act of such behaviour is not their fault, the lower the intention of non-compliance with tax requirements. Besides, a study by Li et al. (2013) finds that the use of denial of responsibility is not significant in explaining intention towards internet abuse in the workplace. This is in line with Silic et al. (2017) who also finds the relationship between denial of responsibility and intention to violate information technology security policies to be insignificant. As a summary, mixed findings have been found regarding denial of responsibility towards (non)compliance. Denial of responsibility as one of the techniques that influences non-compliance behaviour and the Theory of Neutralisation also suggests that individuals are more likely to be more non-compliant if they apply this technique. It is expected that the tendency of SME owners to involve in tax non-compliance is higher when they use this technique. Therefore, Hypothesis 4 will be: *Denial of responsibility positively influence the tax non-compliance intention of SME owners.*

Following the review of previous studies, mixed findings are found. Thus, this study intends to take the challenge by testing denial of responsibility as a moderator variable in explaining the tax non-compliance intention among SME owners. This is consistent with Baron and Kenny (1986) suggestion to introduce moderator variable(s) if the relationship of a predictor and a criterion variable is weak or inconsistent. They believe that a moderator may strengthen, weaken or alter the relationship between a predictor and a criterion variable. Moreover, as per the knowledge of the researcher, a limited studies in Malaysia have found to investigate the impact of denial of responsibility as a moderator in explaining the relationship between some selected determinants and tax non-compliance among SMEs owners. Thus, the following hypotheses are proposed:

- H_{1a}: The positive relationship between attitude towards tax non-compliance and the tax non-compliance intention is stronger when SME owners' denial of responsibility is higher.*
- H_{2a}: The positive relationship between subjective norms and the tax non-compliance intention is stronger when SME owners' denial of responsibility is higher.*
- H_{3a}: The negative relationship between perceived behavioural control and the tax non-compliance intention is stronger when SME owners' denial of responsibility is higher.*

Methodology

Figure 1 illustrates the research model of this study, which includes variables relevant to explaining the tax non-compliance intention of Malaysian SME owners. Due to the unavailability of a complete list of SME taxpayers in Malaysia, the study utilised the list of firms registered with the National SME Development Council (NSDC). A random sample of 580 SME owners was selected from this list, resulting a response rate of 72.8 percent.

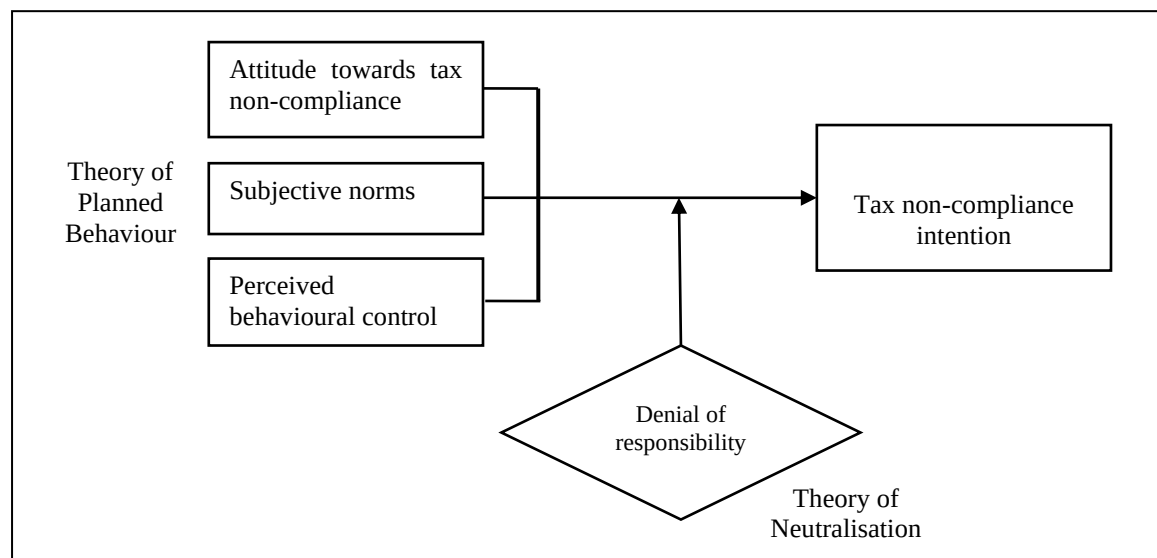


Figure 1: Research Model

Findings

The model comprises five constructs with 39 items, all developed as reflective measurement models due to the mutual interchangeability of the items within each construct. The collected data were analyzed using the PLS-SEM statistical tool. Table 1 demonstrates that all the reliability and validity requirements of the model, as recommended by Hair, Hult, Ringle and Marko (2017), have been satisfied.

Table 1: Results Summary for Composite Reliability and Average Variance Extracted

Construct	Composite Reliability	AVE
Tax Non-compliance Intention (Int)	0.933	0.701
Attitude towards Tax Compliance (Att)	0.934	0.541
Subjective Norms (SN)	0.859	0.514
Perceived Behavioural Control (PBC)	0.902	0.507
Denial of Responsibility (DenRes)	0.950	0.792

The requirement for discriminant validity, as assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio of correlation, has been met, as illustrated in Tables 2 and 3.

Table 2: Fornell Larcker Criterion

	Att (1)	DenRes (2)	Int (3)	PBC (4)	SN (5)
(1)	0.736				
(2)	0.071	0.890			
(3)	0.757	0.058	0.837		
(4)	-0.613	-0.160	-0.623	0.712	
(5)	0.582	-0.055	0.486	-0.364	0.717

Table 3: HTMT Criterion

	Att (1)	DenRes (2)	Int (3)	PBC (4)	SN (5)
(1)					
(2)	0.136				
(3)	0.811	0.062			
(4)	0.671	0.163	0.689		
(5)	0.643	0.166	0.516	0.413	

The R-square value of the direct effect model is 0.617 which indicates that attitude towards tax non-compliance, subjective norms, perceived behavioural control and denial of responsibility can explain 61.70 percent of the variance of the tax non-compliance intention. However, the R-square after the interaction effects of denial of responsibility as a moderator is 0.623 which indicates that attitude towards tax non-compliance, subjective norms, perceived behavioural control and denial of responsibility collectively explain 62.30 percent of the variance in the tax non-compliance intention. Table 4 shows the analysis results of the structural model.

Table 4: Path Coefficient of the Model

Hypothesis and Relationship	Beta Value	Sample Mean	Std. Error	t-value	p-value
H ₁ Att -> Int	0.564	0.562	0.045	12.576	0.000*
H ₂ SN -> Int	0.063	0.067	0.040	1.595	0.055***
H ₃ PBC -> Int	-0.258	-0.258	0.039	6.539	0.000*
H ₄ DenRes -> Int	-0.019	-0.014	0.031	0.626	0.266
H _{1a} DenRes x Att -> Int	0.031	0.033	0.052	0.590	0.278
H _{2a} DenRes x SN -> Int	-0.074	-0.072	0.041	1.808	0.035**

H _{3a} DenRes x PBC -> Int	-0.051	-0.047	0.043	1.177	0.120

* significant at 0.01 (one-tailed)
 ** significant at 0.05 (one-tailed)
 *** significant at 0.10 (one-tailed)

Discussion

Attitude Towards Tax Non-compliance

Attitude towards tax non-compliance intention (H₁) found to be positively and significantly influences the tax non-compliance intention of SME owners in Malaysia. It suggests that SME owners with a favourable attitude towards manipulating income and expenses have a strong intention to engage in tax non-compliance. The finding of this study is in line with those of previous studies such as Ajzen (1991), Alleyne and Harris (2017), Bobek and Hatfield (2003), Buchan (2005), Hai and See (2011), Hamid (2013), Langham et al. (2012), Loo et al. (2009), Marti et al. (2010), Md Radzi and Ariffin (2022), Nkwe (2013), Saad (2011), Smart (2012), Sudiartana and Mendra (2018), Trivedi et al. (2005) and Wahyuni et al. (2019).

Subjective Norms

Subjective norms (H₂) found to be positively and significantly influences the tax non-compliance intention of SME owners in Malaysia. It suggests that SME owners with supportive significant others such as peers, families and friends who approve their actions in manipulating income and expenses would have a stronger intention to involve in tax non-compliance. This is consistent with Adimassu and Jerene (2016), Ajzen (1991), Saad (2011), Bobek and Hatfield (2003), Hai and See (2011), Damayanti, Sutrisno, Subekti and Baridwan (2015), Hanno and Violette (1996), Smart (2012), Md Radzi and Ariffin (2022), Sudiartana and Mendra (2018) and Trivedi et al. (2005).

Perceived Behavioural Control

Perceived behavioural control (H₃) found to be negatively significant in determining the tax non-compliance intention. The negative sign of the path coefficient indicates that lower non-compliance behaviour becomes apparent as taxpayers highly control their tax avoidance or evasion. This suggests that the higher the control the SME owners have on tax avoidance and evasion, the less likely is their intention to engage in tax non-compliance. It is in line with those of Hamid (2013), Md Radzi and Ariffin (2022) and Sudiartana and Mendra (2018) which show that the more the control and the ability the taxpayers have, the more they become compliant in dealing with tax matters, thus reducing non-compliance actions.

Denial of Responsibility

Denial of responsibility (H₄) found to be insignificant in influencing tax non-compliance intention of SME owners in Malaysia. The negative sign of the path coefficient shows that the more taxpayers keep neutralising that their act of such behaviour is not their fault, the lower the intention of non-compliance with tax requirements. It is in line with Md Radzi and Ariffin (2023) but contradict with Harrington (1996), Koay (2018), Li et al. (2013), Silic et al. (2017) and Sykes and Matza (1957). The inconsistency in results may arise from the differences in non-compliance actions. Furthermore, individuals are able to learn and more likely to perform non-compliance actions when their referent others, who they perceive as their role models, support such actions. This gives them the opportunity to engage in non-compliance actions (Robinson & O'Leary-Kelly, 1998). Besides, regarding denial of responsibility as the

moderator, it only moderates one of the relationships – those related to subjective norms (H_{2a}) which indicates that the presence of denial of responsibility has changed the direction of the relationship between subjective norms and tax non-compliance intention from positive to negative. It shows that the presence of denial of responsibility has changed the influence of subjective norms for SME owners with the use of denial of responsibility technique, suggesting that SME owners who tend to apply denial of responsibility technique are less likely to be influenced by their families and peers in terms of tax non-compliance intention. However, the findings suggest that SME owners' denial of responsibility does not significantly moderate the relationship between attitude towards tax non-compliance and their tax non-compliance intention (H_{1a}), nor the relationship between perceived behavioural control and tax non-compliance intention (H_{3a}). This suggests that the technique of denying responsibility employed by Malaysian SME owners does not influence the effect of their attitudes towards tax non-compliance or their perceived behavioural control on their intentions to engage in tax non-compliance.

Conclusion

Tax non-compliance has been extensively investigated and debated for decades. Despite various efforts by researchers, issues related to voluntary tax compliance remain unresolved. Consequently, there is a continuous need for further investigation to address these challenges. This study provides empirical evidence to explain SME owners' intentions regarding tax non-compliance. It offers insights into the effects of the TPB constructs and examines both the main and moderating effects of denial of responsibility in explaining and enhancing the understanding of SME owners' tax non-compliance behaviour. This study is expected to make meaningful contributions to the government and tax authorities by improving tax administration and increasing taxpayer compliance levels. It suggests that tax authorities should implement precise strategies to foster a positive attitude among SME owners towards complying with tax regulations. Although fostering positive attitudes and subjective norms among taxpayers may be challenging, one potential approach is to aggressively and comprehensively disseminate information on the importance of tax revenues to the nation. Furthermore, tax authorities might conduct a series of training sessions for SME owners to raise awareness of the importance of tax compliance behaviour. Regarding perceived behavioural control, taxpayers possess the ability to assess their tax returns. Therefore, appropriate training should be provided to equip them with the relevant knowledge to accurately assess their tax returns. In terms of the denial of responsibility technique to minimise guilt, the findings offer insights into taxpayers' reasons or excuses for their non-compliance intentions. Originally used in criminal cases, this technique is expected to assist tax authorities in raising awareness of the potential national losses incurred by tax non-compliance behaviour. Introducing educational programs that increase SME owners' guilt feelings could discourage non-compliance intention. Tax campaigns focused on creating awareness of tax obligations could also be initiated by the government and tax authorities to curb non-compliance behaviour. However, this study has several limitations. The constructs determining tax non-compliance incorporated in this study are not exhaustive. Other influential constructs or techniques may be relevant but are not included in the theoretical framework of this study. Future research should consider other neutralisation techniques not covered in this study to address tax non-compliance issues, particularly by focusing on SME owners' behaviour in managing tax matters.

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THE IMPLEMENTATION AND OUTCOMES OF SUSTAINABLE LIVELIHOOD PROGRAM IN THE PROVINCE OF LANAOS DEL SUR.

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Abstract: *This study determined how the Sustainable livelihood Program (SLP) of Ministry of Social Services and Development in Bangsamoro Autonomous Region in Muslim Mindanao was implemented from the Province of Lanao del Sur. This looked into the effectiveness and possible issues encountered in rolling this program. It can give a way for us to know not only the benefits that reach to the participants/beneficiaries but provide a better explanation how do it lodge in their economic and employment status. Secondary data will be collected from various sources like survey, interview and focus group technique to collect information related to their socio-economic status, the different challenges encounter in order to get a deeper insight about the beneficiaries. Key findings reveal, that income opportunity contributed to the household by the SLP and skills were imparted among the beneficiaries on one hand. Issues such as selection of beneficiaries and delays in project approvals affect program effectiveness. One of the limitations of the study is possible bias of beneficiaries, they might have answer in personal preferences and not real experience. This study can pave the way for policy makers to assess, reformed and amend programs that potentially improve the quality of life of vulnerable individuals living in the country. Learning from both the success and failure of the program, it can enlighten government policy with regard to future program and services in the Philippines. This paper provides an overview of SLP in LDS, which involves socio-economic difficulties and historical conflict. Such efficacy enhances the significance for welfare beneficiary experiences lending relevance to policy reform and academic research.*

Keywords: *Poverty Alleviation, Microenterprise Development, Employment Facilitation, Community Engagement, Sustainable Livelihood Program*

Introduction

Lanao del Sur, a province in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) has one of the highest poverty incidence and limited livelihood opportunities. Considering these setbacks, the Philippine government launched the Sustainable Livelihood Program (SLP) under the Department of Social Welfare and Development (DSWD) to enhance productivity and to increase economic resilience among poor and marginalized groups. The SLP provides training in critical skills, financial aid and resources to give participants the means needed to develop businesses capable of generating income on a sustainable basis. The focus of this paper is the case of Lanao del Sur, how the SLP had been implemented, built up and operated, focusing on each process involved in providing welfare. This study, through a mixed-methods framework of quantitative data analysis and qualitative interviews with beneficiaries and local stakeholders, which examined whether the program had been successful at lifting beneficiaries out of poverty while improving the overall economy in the province. The findings will inform future research, and lead to broader understanding of the program's impacts both successful and with some room for improvement. As Lanao del Sur grapples with

the challenges in its development, outputs from this study will help in future policy decisions and enhance efficiency of livelihood programs in the region. This work thus intends to demonstrate how these strategies can empower people enhance the quality of their communities as well as sustainable social development amidst challenging socio-economic conditions. Seeking to address these challenges, the Philippine government instituted the creation of the Sustainable Livelihood Program (SLP) in 2011 under the Department of Social Welfare and Development (DSWD). The SLP operates through two main tracks: Microenterprise Development and Employment Facilitation. The Microenterprise Development track focuses on assisting participants in starting or expanding small businesses through seed capital and skills training, while the Employment Facilitation track provides support for job placement and vocational training. SLP train their beneficiaries in skills, finances, and provides financial aid and resources to enable them to start income generating businesses. This paper centers on what transpired in the case of Lanao del Sur, how was SLP implemented, built and landed with special attention given to each process that is part of welfare delivery. Lanao del Sur and the rest of BARMM have a lot to contend with in terms of development and the data established from this study is crucial for uptake in future policy decisions and making livelihood programs more effective in all the region. Therefore, this study looks to illuminate how these forms of strategies can enable individuals improve the quality of their lives and sustainable social development despite facing negative socio- economic conditions.

Literature Review

Legal Base of SLP

The legal bases of SLP is the Reepublic Act 5416 provides the clear mandate of DSWD in providing comprehensive social welfare program. To implement the SLP, the Department issued Adminstrative Order 11, Series of 2011 to fomally introduce the program with expanded menu of livelihood intervention anchored on Community Driven Enterprise Development (CDED) strategy. SLP is implemented to improve the economic well-being of poor households in the Philippines by assisting them in building up their assets, and/or improving activities or occupations that will generate income.

The World Bank 2023 provided an overview of the SLP, which is designed with goals aimed at addressing poverty and inequality via providing job opportunities for poor households. The list of challenges tagged in the report also includes the poor level repayment among clients under the micro-enterprise development track where efforts to improve referral linkages with other programs are advised. In an earlier report dated 2022 of USAID on the Marawi Response Project, it was indicated that the project aims to enhance livelihood opportunities for person internally displaced from Marawi and their host communities in Lanao del Sur through business recovery and community micro-grants. It shows that there is a very highly significant reduction in the poverty incidence because of several developmental programmes such as SLP.

Alampay and colleagues Asanate, M. (2021) also examined how sustainable livelihood programs can contribute to building community resilience in conflict-affected settings and other studies done within the Philippines found similar results among conflict-affected areas particularly in Lanao del Sur. Even when the SLP had provided required resources and training, local conflicts and governance related issues sometimes prevented its successful implementation as identified by these researchers. The paper therefore aperts for the use of conflict sensitive approaches in livelihoods programs to get better outcomes. Additionally, in another study by Reyes and Villanueva (2022) & Mazzucato et al. (2021) assessed the program effects of livelihood programs on poverty mitigation among their beneficiaries. Further this

also highlighted the importance of considering context-specific factors; whilst a number of programs, including livelihoods components did result in positive income impacts, successful outcomes required involvement at the community level and implementation modality which took into account nuance and that such issues as weak support systems and targeting of beneficiaries remained pervasive.

According to Santos et al. In (2023), he investigated the impact of social capital on livelihood programs in rural communities in Mindanao. Results show that strong bonding and community networking facilitated access of beneficiaries to program resources and opportunities: eg in SLP there was 39.90% improvement in the utilization of benefits. They also noted that, in socially-based systems, social capital could entrench exclusionary practices based on the degree to which it is a profitable commodity for some people or groups but not others. In the work of Garcia et al. (2024) examined the impact of these types of crises on the realization of SLP-type livelihood programs in vulnerable areas, being referred to as natural disasters or pandemics. These invaluable resources, despite helping a considerable number of people during crises, have never gone without logistical challenges and resource constraints for effective utilization. These include to formulate adaptive strategies that may enhance program resilience in time of emergencies.

Elliot, for another study of theirs; Lim et al. (2023) & Choudhury et al. (2023). They emphasised that any livelihood programme in Asia "has to be 'gendered' to ensure equal opportunities for male and female beneficiaries." They began by analyzing the extent to which programmes such as SLPs are susceptible to household-level access and decision-making influenced by gender biases. To improve the overall effectiveness of programs, they suggested ways to design and implement gender-sensitive programming. Another study by Mazzucato et al. has (2021) systematically reviewed the studies from livelihood programs in different countries and their effects on poverty alleviation. The authors found that effective programs were often community-based and adapted to the local needs. But they wrote, "While many of them may hold great promise for poverty reduction in practice, targeting and resource allocation issues are likely to continue on aspatial grounds." Simply put, this finding validates the cry for a need for localized assessment which is what this study advocates with the SLP in Lanao del Sur.

Smith et al. performed a 2022 study that focused on the impacts of livelihood interventions in rural African and Asian footprints on household well-being. Writing in the journal Social Science & Medicine, they said that these kinds of interventions are likely to result in better income and living standards for most beneficiaries, but that the extent of benefits is even influenced by social capital and community cohesion. This identifies the community-based nature of the SLP, as in The Journal of Nephi P. Romano et al., which questions its effect to the poorest sector of Butuan City, like Lanao del Sur had comparable socio-economic tribulations. The descriptive-correlational design determined the extent to which SLP had contributed towards economic empowerment and social development of us the beneficiaries. The evidence showed that the program led to better employment prospects and well-being with a focus on self-empowerment which contributed to community resilience.

A study done in cohort basis where Patel et al. found that they needed to study it in a scenario of comparative analysis. Community-based approaches to sustainable livelihoods: An evaluation for the case of a developing country: evidence from Southeast Asia By Makena Coffman; Grace L. Wu; Kelly Sims Gallagher African Journal of Agricultural and Resource Economics (2023). Their research reveals that the effectiveness of programs is significantly

enhanced by community participation because it promotes ownership and responsibility of recipients. Locale-specific evaluations of community dynamics within the SLP, such as that promoted in Lanao del Sur, is supported by this research.

Methodology

It consists of mixed-methods study from various secondary data. This forms a more complete picture of the way in which the program was actually implemented and experienced from multiple sectors. To evaluate the different program successes, such collected survey and study were applicable in many indicators. The data were analyzed descriptively, summarizing participant demographics and inferentially identifying significant relationships between program participation as an independent variable and outcomes.

Base on the latest Philippine Statistic Authority of Bangsamoro Autonomous Region in Muslim Mindanao, the current population of Lanao del sur is 1,195,518 as of the year 2020 which makes it number one among the other provinces in BARMM followed by the Province of Maguindanao. Incidence of Poverty Among Population by BARMM Provinces and City: In the year 2021, Lanao del sur has 10. 9% of its population considered poor, while in 2023 it surged to 17. 9%. Of all the provinces in BARMM, only Lanao del Sur has a low incidence of poverty. Thus, it is proper to say that Lanao del Sur is the least poor in BARMM. It has 39 municipalities and 1 city that are also targeted for intervention under the Sustainable Livelihood Program of the Ministry of Social Services and Development - BARMM.

Sources of Income of The People of Lanao Del Sur.

Agriculture: Almost 70 percent of households in Lanao del Sur rely on farming as their primary economic activity. Major crops are rice, corn and other short duration crops While they may have some of the most fertile soil in the world — in a country where agriculture is the backbone of the economy —they also face challenges such as poor infrastructure and limited access to markets.

Fishing: Due to close proximity from Lake Lanao, is also a good source of living. There were plenty of aquatic resources, which in turn had entered the local diet and economy.

Trade: The provincial government is still constructing an agricultural trading post in Marantao, worth P182 million, to help improve the market accessibility of farmers and traders (2009 Daily Tribune; Manila Philippines). This article will contribute to more bridge connection between local vendors in their conversation with regional markets that might catalyze the agriculture trade drastically.

Crafts and Handicrafts: Lanao del Sur is famous for its ethnic crafts, particularly among the Maranaos. They could gain higher value out of this from cultural aspects, to textiles and metalwork etc. through proper marketing.

Government Support Programs: Different programs from the national government and that of the provincial government tends to help farmers, cooperatives and micro- enterprises virtually affected by the former conflict as this being persevere with long-standing issues of poverty in Lanao del Sur.

Table 1: The following are the list of Municipality in Lanao del sur.

Municipalities in Lanao del Sur that has been approved in the SLP

· Tamparan	· Ditsaan Ramain	· Bumbaran
· Bacolod-kalawi	· Balabagan	· Balindong
· Bayang	· Binidaya	· Butig
· Lumba Bayabao	· Piagapo	· Poona Bayabao
· Ganasi	· Kapai	· Lumbatan
· Madalum	· Madamba	· Malabang
· Marantao	· Masiu	· Molundo
· Pagayawan	· Bubong	· Poona Bayabao
· Pualas	· Saguiran	· Bumbaran
· Taraka	· Tubaran	· Tugaya
· Marogong	· Calanogas	· Buadipuso-buntong
· Maguing	· Picong	· Lumbayanague
· Amai Manabilang	· Tagolowan	· Kapatagan
· Sultan Dumalondong	· Lumbaca-unayan	· Wao
· Marawi City		

Table 2: The disaggregation of the provincial target in BARMM

A. SLP REGULAR

PROVINCE	PHYSICAL TARGET	FINANCIAL ALLOCATION
Maguindanao	2,148	37,565,000.00
Special Geographic Area (SGA)	578	10,110,000.00
Cotabato City	332	5,805,000.00
Lanao Del Sur A	1,239	21,670,000.00
Lanao Del Sur B	908	15,880,000.00
Basilan	908	15,880,000.00
Sulu	1,239	21,670,000.00
Tawi-Tawi	908	15,880,000.00
TOTAL	8,260	144,460,000.00

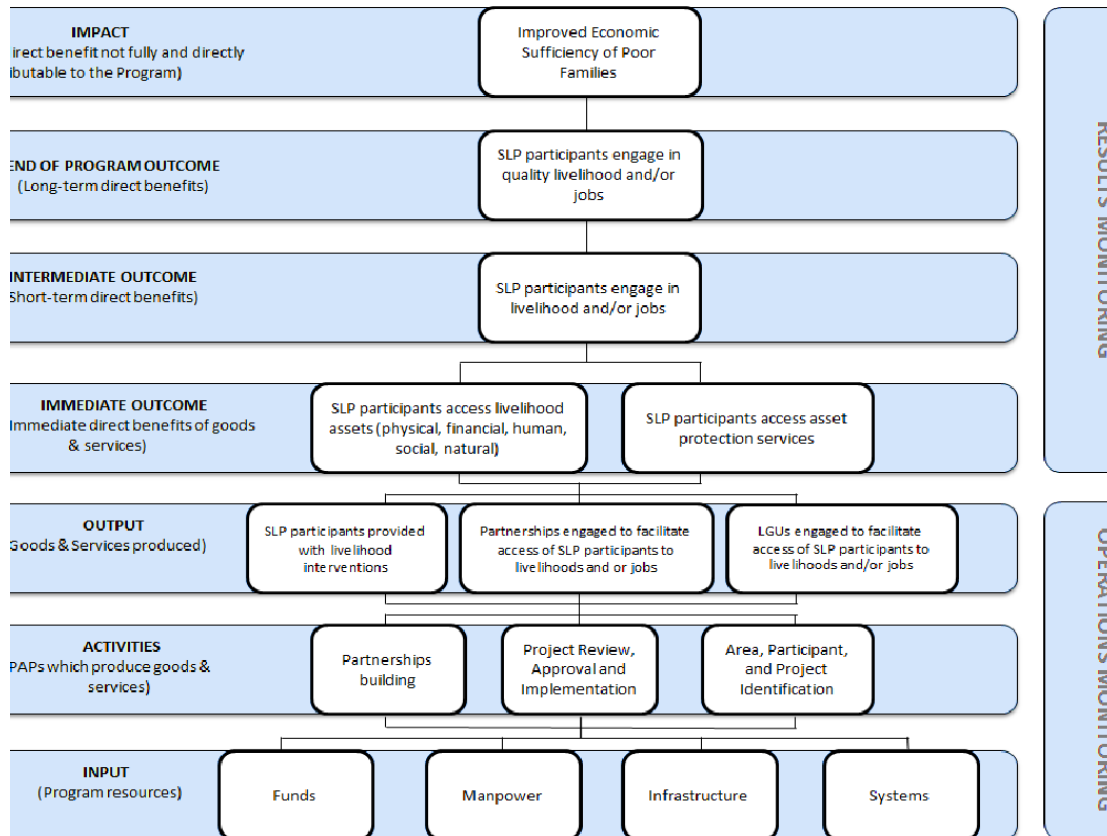


Figure 1. Results Chain of the Sustainable Livelihood Program Source: Sustainable Livelihood Program – National Program Management Office, DSWD.

The two track of Sustainable livelihood Program

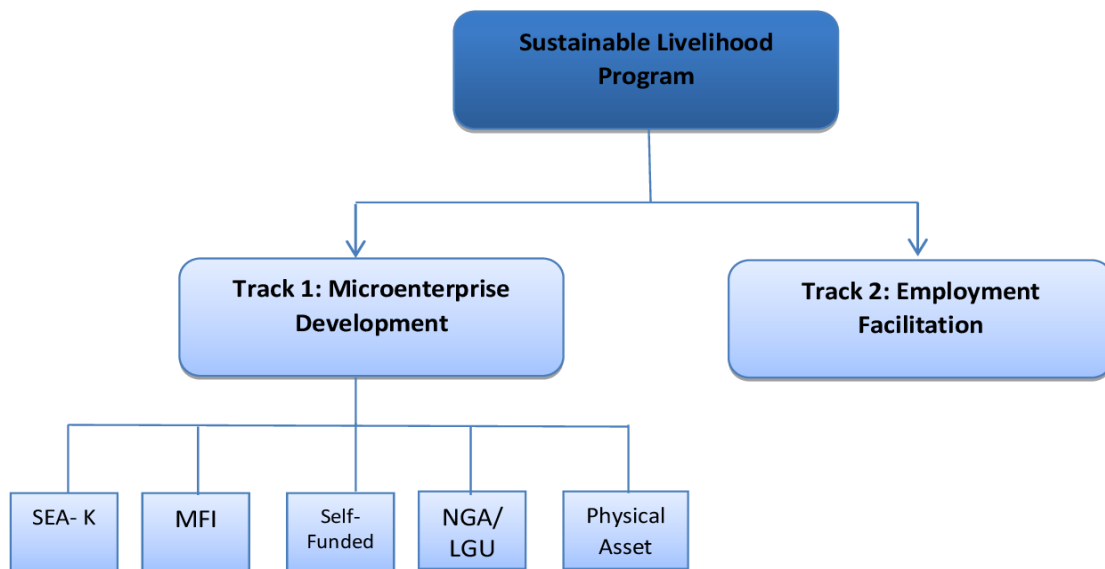


Figure 2. SLP Tracks and Microenterprise Fund Sources

PROGRAM TRACKS

The Sustainable Livelihood Program shall facilitate interventions through two tracks:



PROGRAM TRACKS

The Sustainable Livelihood Program shall facilitate interventions through two tracks:



Most beneficiaries are engaged in the **Micro-enterprise Development (MD) Track**. This is for starting small businesses which has been very elemental in setting up sustainable income sources for their households they basically gives them a ₱15,000 seed capital as grant. depending on the interests and skills of the beneficiaries, they can either run small enterprise or large business.

Data regarding the recipients of assistance by the Sustainable Livelihood Program (SLP) in Lanao del Sur from 2020 to 2024:

The specific businesses established by beneficiaries according to the data provided by the MSSD LSB include:

1. Retail shops (Sari-sari Store)
2. Food stalls
3. Handicrafts and artisan goods
4. Agricultural products
5. Livestock
6. Dress making

Beneficiaries who received assistance from the Sustainable Livelihood Program (SLP) in Lanao del Sur from 2021 to 2024 includes the following key statistics:

Beneficiary Data by Year 2021

November 8, 2021 — A total of 184 individuals have received PHP15,000 worth Livelihood Assistance Grants (LAG) each from simultaneous payouts in the municipalities of Tamparan [61 beneficiaries] and Lumba Bayabao [123 beneficiaries].

Beneficiary Data by Yea 2023

Nov 28, 2023: The beneficiaries were a combined 552 graduates of the Pantawid Pamilyang Pilipino Program (4Ps) from the 19 municipalities and received PHP 15,000.00 each as part of SLP's start-up capital. Additionally, 291 small business owners who availed of the SLP were given PHP 15,000 each.

Summary of Total Beneficiaries (2020-2023)

Total for 2021: 184

Total for 2023: 552 (graduated from 4Ps) + 291 (small business owners) = 843

In the Memorandum No. 51 Series of 2024, Lanao del Sur has a physical target of 2,147 with a Financial Allocation of 37,550,000.00.

Figure 1: As of 2024 the target beneficiaries are as follow for the second district of LDS

MUNICIPALITY	NUMBER OF TARGET	NO. OF INDIVIDUAL	NO OF ASSOCIATION	NO. OF PARTICIPANT S PER ASSOCIATION	NO. OF 4PS	NO. OF NON-4PS	NO. OF MALE	NO. OF FEMALE	NO. OF MNLF SERVED
BACOLOD-KALAWI	90	8	4	82	51	39	14	76	1
GANASSI	89	73	2	16	41	48	37	52	11
MADALUM	61	34	2	27	43	18	8	53	14
BUTIG	68	41	2	27	41	27	27	42	16
MALABANG	50	50	0	0	35	15	12	38	0
MADAMBA	102	37	3	65	62	40	23	79	20
PAGAYAWAN	39	39	0	0	19	20	10	29	0
LUMBATAN	83	38	2	45	53	30	21	62	0
PUALAS	78	38	2	40	48	30	10	68	0
BINIDAYAN	84	33	2	51	51	33	43	41	0
KAPATAGAN	95	25	3	70	52	43	23	72	0
MAROGONG	70	45	1	25	42	28	19	51	0
SUBTOTAL	909	461	23	448	538	371	247	663	62
CALANOGAS	50	0	2	50	50	0	2	48	0
SUBTOTAL	50	0	2	50	50	0	2	48	0
	959	461	25	498	588	371	249	711	66

Source : MSSD-LSB

The Implementation Process of the Sustainable Livelihood Program (SLP) in the BARMM Region.

1. Pre-Implementation Stage In reference to the CY 2024 target Pantawid Familyang Pilipino Program (4P's) beneficiaries endorse by the 4Ps National Program Management Office (NPMO). They consider the 4Ps graduate beneficiaries as their main priority. Barangay with good access to transportation, resources, market institution among others. Barangay that have not received SLP intervention. Local government units (LGUs) and community stakeholders are engaged to secure support for the SLP, ensuring alignment with local development. This stage shall be divided into two phases. The Project area identification and Program Participant identification.

2. Social Preparation Stage

This stage focuses on empowering beneficiaries through participatory activities that foster co-ownership of the program. Such as assessing community needs and available resources. Providing foundational knowledge on livelihood opportunities. Formation of Sustainable Livelihood Program.

Associations (SLPAs), organizing beneficiaries into associations to facilitate collective action and resource sharing. This stage shall be divided into five activities, First Project Barangay Identification that last for 2 weeks, second Coordination with the 4Ps-RPMO and Coordination with the C/M/BLGUs for 2 weeks, third is Local scouting and VMA that is good for another 2 weeks, fourth is SLP Assembly for a day, fifth SLP Formation, sixth is Basic Capacity Building, lastly Project proposal preparation.

Activities	Duration
Project Barangay Identification	2 weeks
Coordination with the 4Ps-RPMO	2 weeks
Coordination with the C/M/BLGUs	2 weeks
Local Scouting and VMA	2 weeks
SLP Assembly	1 day
SLPA Formation	1 day
Basic Capability Building (MEDT I or BEST I)	1 day
Project Proposal Preparation	2 days

3. Resource Mobilization Stage

Activities	Duration
Provincial Project Proposal Review and Approval	1-2 weeks
Regional Project Proposal Review Approval	
Processing of Proposal and Grant Releasing	1-2 weeks

This stage involves preparing project proposals and mobilizing resources necessary for setting up or rehabilitating micro-enterprises. Engaging external stakeholders for additional support and resources. The participant shall undergo three phases under this stage. First is project proposal preparation, second is Project proposal review and approval and lastly Provision Modalities.

4. Project Implementation Stage

Projects are implemented based on approved proposals, which may include various activities such as Grant utilization and Monitoring and Reporting for a week or 3 months, then Micro-enterprise Operation and Employment Monitoring and Advanced Capacity Building and Activities for 1 to 3 months.

Activities	Duration
Grant Utilization Monitoring and Reporting	1 week to 3 months
Micro-enterprise Operations and Employment Monitoring	1 month to 3 months
Advanced Capacity Building Activities	

Eligibility Determination Process

The Ministry of Social Services and Development BARMM conducts independent evaluations to identify the beneficiaries of the program. This is generally done by DSWD worker, who examine a collection of socio-economic indicators such as poverty percentage and household welfare as captured using the SWDI survey. Seed capital were grant of PhP 15,000 after validation/ assessment. These funds would be to assist them in starting or expanding small businesses as a way out of dependency, and also to boost the economy in the community.

Success Stories

Aleng Rowena - Street Food Vendor:

Aleng Rowena, a prominent street food vendor in Malabang, has successfully expanded her business thanks to the support she received from the SLP Program. Initially starting with a small venture, she was able to sustain and grow her business, leading to her qualification for the scale-up phase of the Unlad Pamilyang Bangsamoro Program, which provides additional capital for further expansion.

The overall impact of the SLP on local entrepreneurship will finally be observed in increased business activities and improved economic conditions of participants. Since the design of the program allows flexibility in different communities, its use in entrepreneurship development would be enhanced across diverse settings.

Table 3: List of Municipalities in LDS and its prefer Micro-enterprise business.

Municipality	Type of Small Business
· Binidayan	Rice Retail, Agricultural Product, Food stalls
· Bacolod-kalawi	Rice Retail, Shop, Fishing equipment
· Butig	Rice Retail, livestock, Agricultural Product
· Ganassi	Rice Retail, Agricultural Product, Sewing
· Kapatagan	Rice Retail, Agricultural Product, livestock

· Lumbatan	Rice Retail, Agricultural Product, livestock, Food stall
· Madalum	RTW, livestock, Shop, Agricultural Product
· Madamba	Farming, Store, livestock, Food stall
· Malabang	Agricultural Product, Livestock, Store
· Marogong	RTW, Rice retail, Agricultural Product, Livestock
· Pagayawan	Farming, Livestock, Rice Retail, Fishing equipment
· Pualas	Farming, Livestock, Rice Retail, Dress making, artisan good

Source : MSSD-LSB

Success Stories

Aleng Rowena - Street Food Vendor:

Aleng Rowena is a street food vendor in Malabang and with the help of SLP Program, she was able to improve her business further. From this modest beginning, she maintained her business and was prepared to expand that it qualified as well for the scale-up phase of the Unlad Pamilyang Bangsamoro Program, where additional funding is available for further growth.

Changes in the business situation among beneficiaries will be observed over time that finally show the overall effect of SLP on local entrepreneurship, improved economic conditions of participants. Its architecture for the program to be responsiveness to its environment and contextual specific environments makes it unique giving it a potential, easily adaptable tool in entrepreneurship development within a variety of settings.

Results and Discussion

This study for the Sustainable Livelihood Program (SLP) in the province of Lanao del Sur presents analyses on how SLP has been implemented at the local level and how it has benefited its identified participants or beneficiaries. The result indicate that their a positive impact in the income of the beneficiaries, however some issues still face in the program implementation. This chapter provides a theoretical and systematic examination of the results, provided with support from existing literature, theories and previous study.

Positive Outcomes of the Sustainable Livelihood Program

1. Improvement in Household Income and Employment Stability

Most of the recipients indicated that their quality of life had improved due to an increase in family income, which they claimed came from increased earnings through their microenterprise or steady work under the program. Beneficiaries in the MD track had seen a larger increase in financial stability. This was true considering also other survey: even NIR suggests that income programs can have a significant effect on the economy by enabling more vulnerable households to flourish (Ballesteros et al., 2017). The rise in income is in accordance with the Sustainable Livelihoods Framework (SLF), which suggests that access to financial capital is vital in the enhancement of livelihoods.

2. Skills Training and Capacity Building

Another merit of SLP is the skills training that effectively delivers to the beneficiaries. Many of the individuals even claimed that training made them employable and productive. This finding supports the Theory of Change, suggesting that targeted training interventions can

enhance job readiness and economic opportunity (Reyes & Villanueva, 2021). The study shows that beneficiaries who received vocational skills training were more able to get decent jobs or become entrepreneurs, demonstrating a clear link between capacity building and livelihood success.

3. Enhanced Motivation and Social Protection

It has also motivated the beneficiaries under SLP to more readily engage in productive pursuits as to help improve their situation. A confidence to seek improved economic opportunities was also reported by beneficiaries which is critical for sustainability in the long term. They also perceived the program as a social protection, rather than solely financial assistance for their economic hardships. This is in line with the findings by Hoddinott & Yohannes (2002), who contended that social protection programme might increase food consumption and income for marginalized populations.

Challenges in Implementation

1. Beneficiary Targeting Issues

Although good results were obtained, beneficiary targeting proved to be a challenge. The Community Volunteers explained that Parent Leaders or authorities were largely responsible for choosing who received the supplies, which was likely what contributed to the distribution of resources being uneven across households. It corresponds with findings from other research pointing at the influence of social networks on access to livelihood programs (Lusinga-Machikicho & Mutanana, 2022). This problem is compounded by the absence of trait-based criteria for participant selection, implies the need to target a little better.

2. Bureaucratic Delays

The biggest challenge to project implementation were delays in the review and approval of projects, because of these delays, a lot of those people who were potential beneficiaries just became dropouts or sought other places instead. This discovery resonates with the concern of Bhatia (2020) that bureaucratic obstruction can render a program project non-viable and thus slow down aid delivery for the most vulnerable. Because of this, the need for streamlining models in non-medical parts of these types of programs have become apparent.

3. Challenges with SLP Associations

It was even a deterrent in the case of SLP groups, as it hampered what should have been collective action provide for beneficiaries. This suggests that group dynamics might open up new opportunities for support networks but if not designed well, can instead engender competition or contention. Community cohesion was also noted in other sources as one of the relevant factors that contributes to the success of livelihood programs (Ellis, 2000). Consequently, good group dynamics provides a critical lever to receive the advantages of collective involvement in full.

Recommendations for Improvement

To address the identified challenges and enhance the effectiveness of the SLP in Lanao del Sur, several recommendations emerge from the study:

- ✧ **Strengthening Targeting Mechanisms:** The inclusion of criteria elements based on characteristics will ensure that some resources are distributed in an equitable way to those in need.
- ✧ **Streamlining Administrative Processes:** Reducing bureaucratic procedures by adhering to robust project implementations will ensure that the beneficiaries get quick access to these resources.
- ✧ **Enhancing Group Dynamics:** Trainings in group management and conflict resolution could increase cooperation among SLP associations instead of the current competitive frameworks.

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ISLAMIC ETHICAL PRINCIPLES AND ACCOUNTABILITY IN GOVERNANCE

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Abstract: *The research investigates how Islamic ethics can contribute to better government accountability. This also clarifies in what ways these ideas can bring positive changes to transparency, justice, corruption, and civic engagement. This descriptive study made use of secondary data. The secondary data has been sourced from government publications, measures, and academic records. The administration of governmental accountability founded in Islamic ethical principles, such as justice and truth, helps in reducing corruption. Nevertheless, challenges rise from erratic interpretations and socio-political influences, which complicate the execution and understanding of these governance methods. Based on secondary and historical data, this study might not accurately represent the present governmental data. The ambiguity of governance information and the limited scope to select Muslim countries restrict the accuracy and comprehensive usefulness of the study. This study investigates the purposes of Islamic ethical mechanisms such as justice, trust, and consultation making sure the integrity of government. These guiding principles help lawmakers in how the country is to be administered, stimulating honesty, lessening corruption, and enhancing citizen participation.*

Keywords: *Islamic Ethics, Accountability, Governance, Justice (Adl) Trust (Amanah), and Consultation (Shura)*

Introduction

Good public governance which is the groundwork of public administration ensures that services offered are in accordance with Islamic ethical standards and look at the best interest of the society. It provides services with all honesty, fairness, truthfulness, trustworthiness and invite the public to participate in decision-making process. Islamic ethical principles such as justice, accountability, trustworthiness and consultation are the complete and the framework in enhancing effective and efficient governance.

Governance is the foundation of good public administration, ensuring that institutions operate honestly, fairly, and in the best interests of society. In this environment, ethical standards are critical for fostering honesty and trust within governance institutions. Islamic ethical concepts, including justice, accountability, trust, and consultation, form a complete framework for promoting effective governance. Justice underscores righteousness and impartiality in decision-making processes, accountability ensures that public officials are held responsible for their acts, trust fosters trust between the government and its citizens, and consultation encourages comprehensive engagement in governance. Together, these concepts serve as a foundation for developing institutions that are responsive to people's needs while also being resistant to corruption.

Accordingly, this study uses secondary data sourced from academic research, policy documents, and case studies to investigate the application of these Islamic ethical principles in

governance. Investigating their part in improving accountability, encouraging trust, and fostering participatory governance, the study tries to demonstrate their possibility to improve public administration. Additionally, it recognizes vital challenges that may hamper the practical execution of these principles in various governance situations.

Problem Statement

Challenges like corruption, deficient accountability, and poor governance schemes are problems in governance in many countries that include Muslim majority countries. Islamic governance stresses the importance and application of justice, accountability, trustworthiness, and consultation in running government. However, this ethical principle, if practiced, was typically underutilized in their governance scheme. Their implementation and application become complex because of sociopolitical impairments and misconceptions. These problems can be effectively answered by investigating the orderly integration of Islamic ethical values into government practices. In addition, it is vital to identify the influence of morals such as justice, accountability, trustworthiness, and consultation to encourage public participation while resolving prevailing governance challenges.

Purpose of the Study

The goal of this study is to investigate the effect of Islamic ethical principles in increasing accountability, fairness, and trust in governance among government institutions. Using secondary data from existing literature, reports, and case studies, the study anticipates to identify the effect of these principles on governance practices and the blocks to their application, giving insights for evolving ethical governance. It investigate the potential of these principles to improve justice, openness, civic involvement in governance, and corruption prevention.

Research Objectives

The drive of this study is to investigate the integration of Islamic ethical concepts in governance using secondary data. Explicitly, the study try to identify important Islamic ethical concepts pertinent to governance developments and investigate their current application in existing institutions. It attempts to investigate the hindrances and blocks to the effective application of these ethical standards. Furthermore, the study intentions is to provide actual ideas for improving the integration of Islamic ethics into governance systems. Finally, it evaluates the effect of Islamic ethical values on openness, accountability, and public trust.

Research Questions

1. Do Islamic ethical principles improve accountability in governance?
2. Do practice in Islamic ethical principles improve fairness in government resulting reduces corruption?
3. How do Islamic ethical principle improve civic participation and trust to government institutions?
4. What issued that can hinder the application of Islamic ethical principles in governance?

Literature Review

Existing Research on Islamic Ethical Principles in Governance

The Quran offers a complete outline for good governance, stressing justice, trust, accountability, consultation. These values are not only foundational to Islamic governance but are also generally applicable, contributing valuable insights for modern political and administrative systems. In line with this Quranic guiding principle, leaders can foster a just, complete, and prosperous society, satisfying their duties to both their people and their Creator. Ali and Al-Aali (2020) claim that because these ethics are strongly entrenched in religious and social standards, they are indispensable for making people more accountable in Muslim-dominant societies. These Islamic values in government schemes tries to build a just system in which leaders answer not only to their residents but also to a higher moral authority.

According to Sulaiman and Bhatti (2019), trustworthiness is an important aspect in leadership. Consequently, there study displays the connection between Amanah and the faith of people, cases of corruption become less. In the same manner, Ahmed and Fatima (2018) study suggest that Islamic ethics can help leaders make rule, regulations and guidelines that are more just thereby guaranteeing that resources are used and shared equally. However, these studies did not recognize importance of Islamic ethical principle in the academe as well as did not delve into the detailsof how these Amanah can be useful in government.

Islamic Ethics and Accountability

Islamic moral principles dictate that individuals and institutions must be accountable for their actions. Hashim and Hassan (2017) believe that hisab (accountability) within governance coincides with modern accountability measures such as audits, performance assessments, and public disclosures. When these systems are based on Islamic beliefs, they promote honesty and moral behavior. Still, there isn't a lot of real-world evidence about how well these principles work in modern government, especially when it comes to dealing with complicated social and political situations.

Challenges in Applying Islamic Ethics in Governance

Islamic morals are hard to follow, even though they have a lot of good things about them. Khan and Karim (2021) say that it is hard to follow Islamic principles because of different ways of understanding them and because of social and political issues. There aren't any normal ways to bring Islamic ethics into government, which makes the process even harder. Politics also play a part. Meanwhile, Alam and Saleh (2020) say that even though Islamic morals come from past practices, it is very hard to apply them to current ways of running a government.

Research Gaps

A lot of research has been done on how the Islamic ethical ideals of justice (adl), accountability (hisab), trust (amanah), and consultation (shura) can help promote good governance by making things more open, fair, and anti-corruption. Nevertheless, gaps still exist because most studies uses qualitative or theoretical methods and the focus of the study is more on general principles rather than how they work in a specific government situation.

Problems like different understandings of Islamic beliefs, social and political factors, and the lack of standard frameworks make it even harder to apply them consistently. Also, not much thought has been put into how these ideals can help solve modern problems like corruption, a lack of public trust, and people not participating in politics.

This study aims to fill in these gaps by looking at how Islamic moral values can improve the accountability and openness of government using secondary data. Its goal is to make their practical contributions clearer, look into the problems that come up when they try to be put into action, and give a full picture of their role, especially in countries where Muslims are the majority.

Methodology

This study examines the function of Islamic ethical principles in governance using a descriptive research design and a secondary data analysis approach. Government reports, scholarly journals, and international databases like the World Bank and Transparency International are the sources of the data, which is relevantly centered on publications over the last 20 years. Descriptive statistics are used to analyze numerical data, comparative analysis is used to look at governance patterns across nations, and content analysis is used to find important themes. However, the study acknowledges limitations such as data availability, potential bias from original sources, lack of control over data quality, and limited applicability to non-Muslim-majority contexts. Despite these constraints, secondary data analysis offers a comprehensive and cost-effective means to investigate the impact of Islamic ethics on accountability and transparency in governance.

Results

Data Presentation

The key findings of this study are summarized and organized to highlight the application of Islamic ethical principles—justice (adl), trust (amanah), and consultation (shura)—in promoting accountability in governance.

Table 1: Islamic Ethical Principles and Their Impact on Governance Accountability

Islamic Ethical Principle	Impact on Governance Accountability	Example Countries
Adl (Justice)	Promotes fair decision-making, reduces corruption, and strengthens trust in public institutions.	Malaysia, Saudi Arabia, UAE
Amanah (Trust)	Enhances public trust in government, promotes transparency, and holds officials accountable.	Malaysia, UAE
Shura (Consultation)	Fosters civic participation, improves decision-making, and strengthens public engagement.	Indonesia, Turkey

An analysis of Table 1 indicates that fundamental Islamic moral concepts such as Amanah, Adl, and Shura significantly enhance governmental accountability. The ideals contribute to reduced corruption and increased trust in government. A 2008 publication by Al-Khattab asserts that Amanah, or trust, necessitates honesty from leaders, thereby fostering an open society. Adl, emphasizing fairness, results in more equitable policy decisions. On the contrary, Shura encourages consultation, improving governmental transparency and expanding public participation. The findings indicate that the application of these principles within government can effectively reduce corruption and enhance transparency, as demonstrated by Siddiqui (2017) in his research on governance in Islamic contexts.

Table 2: Comparison of Governance Metrics Before and After Application of Islamic Ethical Principles

Country	Governance Metric	Before Application of Islamic Ethics	After Application of Islamic Ethics
Malaysia	Transparency Index (TI)	40/100	47/100
Saudi Arabia	Corruption Perception Index (CPI)	47/100	50/100
UAE	Accountability Score (World Bank)	52/100	55/100
Indonesia	Public Participation Index	Low engagement	Increased local civic engagement
Turkey	Transparency & Governance Quality Index	Moderate transparency	Higher focus on local transparency

Table 2 illustrates a notable enhancement in governance indicators, including public trust, corruption levels, and political engagement, subsequent to the adoption of Islamic ethical standards. An analysis of the pre- and post-implementation periods reveals an enhancement in both openness and justice. El-Gamal (2006) arrived at comparable conclusions, asserting that the integration of Islamic principles into governance frameworks enhances public perceptions and participation. The reduction in corruption and the increase in civic participation align with previous studies that emphasize the role of Adl (justice) and Shura (consultation) in mitigating unethical practices in governance (Saeed, 2004).

Table 3: Challenges in Implementing Islamic Ethical Principles in Governance

Country	Challenge	Explanation
Malaysia	Political Fragmentation	Different political factions affect the uniform application of ethics.
Saudi Arabia	Modernization vs. Traditional Interpretations	Balancing traditional Islamic principles with modern governance needs.
UAE	Influence of Political Elites	Political elites may undermine transparency despite ethical principles.
Indonesia	Corruption at National Level	Despite local progress, national corruption persists.
Turkey	Secular Governance Structure	Difficulty in balancing Islamic principles with the secular system.

Table 3 reveals several barriers to the successful implementation of Islamic ethical principles, such as political resistance, varying interpretations of Islamic law, and socio-political influences. These findings are consistent with Hassan & Jang, (2015), who identified challenges in the implementation of Shariah-based governance systems, particularly in more centralized political environments. Furthermore, the variation in interpretations of Islamic ethics, as observed in Indonesia and Saudi Arabia, complicates the uniform application of ethical principles across governance systems (Denny, 2007).

Table 4: Governance Metrics Based on Islamic Ethical Principles

Country	Islamic Ethical Principles	Key Governance Outcome	Relevant Metrics	Challenges/Considerations
Malaysia	<i>Adl</i> (Justice), <i>Amanah</i> (Trust)	Strong anti-corruption efforts, increasing transparency	Corruption Index: 47/100 (Transparency International)	Socio-political influences, implementation gaps
Indonesia	<i>Shura</i> (Consultation), <i>Adl</i> (Justice)	Public participation in governance, reduced corruption in local areas	Accountability Score: 60/100 (World Bank Governance Indicators)	Corruption in higher levels of government
Saudi Arabia	<i>Adl</i> (Justice), <i>Amanah</i> (Trust)	Reforms in judicial system, enhanced public trust	Corruption Index: 50/100 (Transparency International)	Balancing Islamic principles with modernization
Turkey	<i>Shura</i> (Consultation), <i>Amanah</i> (Trust)	Civic engagement initiatives, local governance reforms	Transparency Score: 55/100 (World Bank Governance Indicators)	Secular vs Islamic governance frameworks
United Arab Emirates (UAE)	<i>Amanah</i> (Trust), <i>Adl</i> (Justice)	Ethical leadership, anti-corruption reforms in business and government	Corruption Index: 48/100 (Transparency International)	Challenges in public sector accountability

The analysis of Table 4 indicates that Islamic ethical principles positively influence key governance metrics such as accountability, transparency, and justice. These results corroborate findings by Rahman (2009), who highlighted that Islamic ethical values directly enhance governance by promoting fairness and moral responsibility. This table also supports the idea that incorporating these principles reduces corruption, a common challenge in governance worldwide (Tibi, 2008).

Table 5: Implementation of Islamic Ethical Principles

Country	Islamic Ethical Principles	Key Governance Outcome	Governance Metric	Implementation of Ethical Principles	Challenges/Considerations
Malaysia	<i>Adl</i> (Justice), <i>Amanah</i> (Trust)	Anti-corruption measures, increased public trust in government	Corruption Index: 47/100 (Transparency International)	Active use of <i>Amanah</i> and <i>Adl</i> in policies, creating transparency	Socio-political dynamics, enforcement of policies
Indonesia	<i>Shura</i> (Consultation), <i>Adl</i> (Justice)	Public participation, improved local governance	Accountability Score: 60/100 (World Bank Governance Indicators)	Consultation mechanisms (<i>Shura</i>) in local governance	National-level corruption, political fragmentation
Saudi Arabia	<i>Adl</i> (Justice), <i>Amanah</i> (Trust)	Judicial reforms, enhanced public trust in the government	Corruption Index: 50/100 (Transparency International)	Integration of <i>Adl</i> in the judicial system, focusing on fairness and justice	Modernization vs. traditional interpretations of Islam
Turkey	<i>Shura</i> (Consultation), <i>Amanah</i> (Trust)	Civic engagement, local governance reforms	Transparency Score: 55/100 (World Bank Governance Indicators)	Striving for a balance between <i>Shura</i> and secularism in public policy	Secular government structure vs Islamic governance
United Arab Emirates (UAE)	<i>Amanah</i> (Trust), <i>Adl</i> (Justice)	Ethical leadership, business/government transparency	Corruption Index: 48/100 (Transparency International)	Strong focus on <i>Amanah</i> and <i>Adl</i> , fostering trust and accountability	Public sector accountability, influence of political elites

The findings from Table 5 show that the implementation of Islamic ethical principles can foster a more inclusive and transparent governance system. However, challenges remain in their execution, particularly in non-Muslim-majority countries or in systems with entrenched corruption. These results are consistent with Hassan (2012), who argued that Islamic principles, while beneficial in promoting accountability, face significant hurdles in multicultural or secular governance systems.

Discussion of Findings

Interpretation of Results

The findings indicate a distinct beneficial effect of Islamic ethical principles on governance accountability, especially within Muslim-majority nations. This is consistent with the current body of literature that highlights the significance of Amanah (trust), Adl (justice), and Shura (consultation) in fostering a governance system characterized by greater accountability and transparency (Saeed, 2004). The favorable influence on governance metrics, including public trust, transparency, and corruption levels, is consistent with the findings of El-Gamal (2006) and Siddiqui (2017), who similarly established a significant correlation between Islamic ethical values and enhanced governance results.

Nonetheless, the challenges noted, such as political resistance and differing interpretations of Islamic law, align with the findings from Hassan & Jang (2015), which emphasize the intricacies involved in the universal application of these principles. The varying political contexts and socio-cultural dynamics in countries such as Indonesia, Pakistan, and Saudi Arabia highlight the inadequacies of applying a uniform approach to Islamic governance principles (Denny, 2007).

Implications

This study indicates that integrating Islamic ethical principles into governance may enhance transparency, diminish corruption, and cultivate public trust. The findings can guide policy decisions, especially in Muslim-majority countries, where the congruence of governance practices with ethical values is essential. This study may prompt policymakers in Muslim-majority countries to consider Shura as a model for improving citizen participation in governance, in accordance with Tibi's (2008) advocacy for inclusive governance systems grounded in moral and ethical principles.

This research enhances the comprehension of the influence of ethical frameworks, especially those based on religious principles, on political systems. Islamic ethics serve as both a religious mandate and a practical instrument for enhancing governance. This research enhances the literature on Islamic Political Theory by illustrating the practical applications of these principles within governance contexts.

Limitations

The primary drawback with the study is that it only uses secondary data, which might not fully show how government works now or how it has changed over time. There may also be problems with the correctness and completeness of secondary data sources, especially old records. Also, the results can't be used in other political situations or countries where Muslims aren't the majority because they were only looked at in Muslim-dominated countries. Also, the secondary data that was used in the study might not have included all the things that could affect how accountable government is, like political or economic pressures from outside the country.

Suggestions for Future Research

Future research could build on this work by collecting primary data through surveys and interviews with government officials and residents to acquire a better understanding of the

actual problems and triumphs of implementing Islamic ethical principles in governance. Further studies could expand the scope to encompass additional nations with diverse political systems and contexts, so enhancing the significance of the findings. Subsequent research may examine the interaction of Islamic ethical principles with alternative governance frameworks in multicultural or secular societies, potentially yielding valuable insights into the principles' adaptability in non-Muslim-majority nations.

Conclusion

This study highlights the potential of Islamic ethical principles—Amanah (trust), Adl (justice), and Shura (consultation)—to enhance governance accountability in Muslim-majority nations by reducing corruption, increasing transparency, and fostering public participation. However, challenges such as political opposition, socio-political dynamics, and varying interpretations of Islamic beliefs hinder their full implementation, especially in centralized or authoritarian systems.

Certain limitations of the study could not be avoided. Although the study emphasizes the advantage of linking Islamic ethics into governance, it recognizes restrictions like dependance on secondary data and a focusing on select nations. So as to strengthen comprehension, primary data should be examined to include different political schemes. Consequently, Islamic ethics provides traditionally related schemas for transparent, just, and inclusive governance, with lawmakers strengthened to address socio-political barriers for effective execution.

Recommendations

Based on the findings of the study, the following recommendation are proposed:

To augment the implementation of Islamic ethical principles in governance, it is suggested that governments capitalize training agendas concentrating on values such as justice (adl), trust (amanah), and consultation (shura). These agendas ought to comprise workshops, university curricula, and public service training to encourage ethical governance. Governments should also evolve clear structures for incorporate Islamic ethics into governance, making them appropriate to modern frameworks while preserving core Islamic values.

Regular consultation (shura) should be encouraged by involving the public using tools like face-to-face, public media and online platforms. This consultation will boost transparency and confidence to the government. Furthermore, anti-corruption policies should be build based on trust (Amanah) and should be applied equally with accountability mechanism be installed. However, challenges such as political resistance and cultural reservation is likewise pivotal. Supporting political unity and cross-cultural exchange of ideas can help overcome these barriers.

To ensure the effectiveness of these ethical policies, an independent body had better regularly monitor and evaluate their effect on corruption, transparency, and public trust. Importantly, it is imperative for Muslim dominated countries to work together to foster exchange of best practices. Religious and political leaders should exemplify these practices, enhancing ethical governance to motivate citizens and strengthen support for accountability, transparency, and participation.

EVALUATING STUDENTS' SATISFACTION IN ENGLISH COURSES AT SPACE UTM

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Abstract: *This study examines student satisfaction with the English courses offered in the Diploma Programme at SPACE UTM, focusing on course content, instructional delivery, workload, assessment, support services, and technological integration. A cross-sectional survey was conducted with 167 students, using stratified random sampling and a structured Likert scale questionnaire to assess satisfaction levels. The findings revealed that the majority of students were satisfied with the course content's relevance, instructional clarity, and encouragement of participation. Satisfaction was also high regarding workload balance and assessment transparency. Support services and technological integration were positively reporting satisfaction. However, areas for improvement were noted, including diversifying course content to cater to broader interests, refining instructional methods to accommodate diverse learning styles, and providing further guidance on workload management. These findings offer valuable insights for enhancing the learning experience in English courses, with implications for curriculum design and instructional strategies in similar academic settings.*

Keywords: *Students' Satisfaction, Course Content, Instructional Delivery, Improvement, English Courses*

Introduction

Recent studies have delved into students' satisfaction and engagement in English language courses across Malaysian universities, highlighting key factors that influencing these experiences. Thien and Jamil (2020) found that good teaching, clear objectives, balanced workload, and fair assessments significantly enhance undergraduate students' overall satisfaction at a research university. Similarly, Abdul Kadir (2023) reported high levels of student engagement and positive perceptions of online English classes among undergraduates, despite challenges related to technology access and instructional methods. Kris and Wong (2009) also explored learners' views on online English language courses at a virtual university, underscoring the importance of course design, instructional quality, and technology integration.

These studies collectively underscore that effective course design, teaching quality, and technological support are essential for boosting student satisfaction and engagement, whether

in traditional or online settings within Malaysian higher education. In today's globalized academic and professional landscapes, English proficiency is crucial. SPACE UTM's Diploma Programme addresses this need by offering English courses that aim to elevate language skills, preparing students for further studies and professional demands. With quality education gaining priority, student satisfaction serves as a vital indicator of a program's success, driving institutional improvements and fostering a culture of ongoing quality enhancement. Hence, this study aims to assess students' satisfaction with various elements of the English courses in the Diploma Programme, identifying key factors influencing satisfaction and areas requiring enhancement. By identifying student satisfaction levels, SPACE UTM can make data-driven improvements in course design, delivery, and support, ultimately enhancing the learning experience and outcomes for students.

Literature Review

Student satisfaction in Malaysian universities is influenced by a multifaceted interplay of factors, each contributing uniquely to the overall educational experience. A critical aspect of this satisfaction is the quality of course experience, which encompasses elements such as effective teaching, clarity of course objectives, manageable workload, and assessment methods. Course experience quality, including good teaching, clear goals, appropriate workload, and assessment, significantly affects overall satisfaction (Thien & Jamil, 2020). Institutional factors such as administrative, technology, and university support, along with learner characteristics like motivation, self-regulated learning, and self-efficacy, contribute to course satisfaction in distance learning (Kadir et al., 2020). Course experience quality factors, including good teaching and clear goals, significantly impact students' overall satisfaction (Thien & Jamil, 2020). The integration of chatbots in language learning has shown promise, with performance and effort expectancies acting as pull factors. However, social isolation due to robotic interactions serves as a push factor (Nagaletchimee Annamalai et al., 2023). Overall, the findings from various studies underscore the importance of tailoring well-structured courses to meet students' needs and enhance their satisfaction. Thien and Jamil (2020) advocate for a comprehensive approach to course design that integrates both pedagogical best practices and innovative technologies. This holistic perspective is crucial for developing language learning experiences that resonate with students in Malaysian higher education institutions, ensuring that they are not only academically successful but also satisfied with their educational journey.

English proficiency plays a pivotal role in both academic success and employability in Malaysia's increasingly competitive landscape. As the country continues to integrate into the global economy, effective communication in English has become essential for graduates seeking to thrive in various professional environments. Studies indicate that although unemployment rates among graduates have been on a decline, English proficiency alone may not be the sole determinant of employability (Hiew et al., 2021). This suggests that while solid language skills are vital, other factors such as relevant work experience, interpersonal skills, and adaptability also significantly influence hiring decisions. To address the pressing need for improved English language skills among students, Malaysian universities have launched a various initiatives to enhance English proficiency. Among these initiatives, English Language Enhancement Programs (ELEPs) have emerged as the most common approach. Jawing and Kamlun (2022) note that these programs are designed to equip students with the necessary language skills to succeed academically and professionally. By incorporating interactive learning methods and real-world applications, ELEPs seek to provide students with a robust foundation in English, thereby boosting their confidence and competence in using the language. Recognizing the critical role of English language skills for academic achievement, higher

education institutions in Malaysia have made standardized English proficiency tests a prerequisite for international student enrollment. This policy underscores the importance of language proficiency as a fundamental requirement for academic success. By ensuring that students possess the necessary language skills before entering their programs, universities aim to create a more conducive learning environment, reducing language barriers that could hinder academic progress.

Recent studies in Malaysia have focused on aligning English language courses with the Common European Framework of Reference (CEFR). Universities are realigning their curricula to meet CEFR standards (Bakar, 2020), with efforts to correlate existing assessment tools to CEFR-aligned tests (Baharum et al., 2021). Language educators teaching engineering programs have shown positive attitudes towards CEFR implementation, despite facing significant challenges (Rahman et al., 2021). However, the adoption of global textbooks aligned with CEFR has raised concerns about cultural content. An evaluation of locally developed and global textbooks revealed that the local textbook contained more comprehensive intercultural content and a broader cultural spectrum, better aligning with Intercultural Communicative Competence objectives (Rahim & Daghighi, 2020). These findings suggest that while CEFR alignment is progressing in Malaysian universities, careful consideration should be given to maintaining cultural relevance in language teaching materials to meet local learners' needs effectively.

Methodology

This quantitative study used a cross-sectional survey approach to assess satisfaction levels among students in English courses within SPACE UTM's Diploma Programme. The design captured student satisfaction data at a single point in time, allowing for statistical examination of factors impacting satisfaction. A target population of 167 diploma students enrolled in SPACE UTM's English courses was involved. Stratified random sampling ensured representation across variables such as year of study, demographics, and course status, providing insights across diverse student groups. A structured online questionnaire was distributed via an electronic survey platform, enhancing accessibility and response rates. Data were collected mid-semester to capture feedback on recent course experiences. The survey included sections focused on key dimensions of satisfaction, with a Likert scale (1-5) measuring satisfaction levels from "Very Dissatisfied" (1) to "Very Satisfied" (5).

Findings

Gender

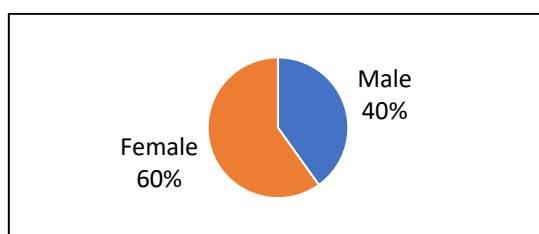


Figure 1: Respondents Gender in Percentage

Figure 1 depicts that majority of the respondents (60% of the respondents) are female and the rest (40% of the respondents) are male. This indicates that the participation of female graduates is higher than the male graduates.

Age

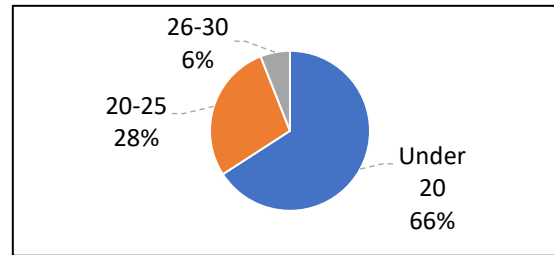


Figure 1: Respondents Age Category in Percentage

From Figure 2, we can observe that the majority of the respondents (66% of the respondents) are categorized under the age of 20, 28% of the respondents are between the ages of 20 and 25 and 6% of the respondents are categorized between the ages of 26 and 30.

GPA Score

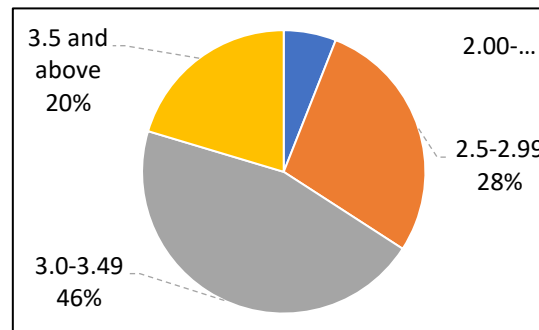


Figure 3: GPA of the Students

Figure 3 shows that the majority of the participants (46% of the students) have GPAs from 3.00-3.49. On the other hand, 28% and 20% of the respondents have GPAs from 2.5 to 2.99 and 3.5 and above respectively. Only 6% have the GPA from 2.00-2.49.

Table 1: Student Satisfaction Across Various Dimensions of The English Courses

Table 1: Student Satisfaction Across Various Dimensions of The English Courses											
No	Items	Very Satisfied		Satisfied		Neutral		Dissatisfied		Very Dissatisfied	
		Count	%	Count	%	Count	%	Count	%	Count	%
Course Content											
1.	The Course Content Is Relevant to My Academic and Career Goals.	45	27	60	36	35	21	20	12	7	4
2.	The Materials Used in The Course (Textbooks, Readings, Etc.) Are Up-To-Date and Informative.	50	30	55	33	30	18	25	15	7	4

3.	The Course Content Is Organized in a Logical and Easy-To-Follow Structure.	48	29	62	37	32	19	18	11	7	4
4.	The Topics Covered Are Engaging and Maintain My Interest.	42	25	57	24	40	24	20	12	8	5
5.	The Course Helps Improve My English Language Skills (Reading, Writing, Speaking, Listening).	53	32	59	35	27	16	21	13	7	4
Instructional Delivery											
6.	The Instructor Explains Course Material Clearly and Effectively.	47	28	62	37	33	20	17	10	8	5
7.	The Teaching Methods Used (e.g., Lectures, Discussions, Activities) Enhance My Understanding.	50	30	57	34	37	22	15	9	8	5
8.	The Instructor Encourages Student Participation and Engagement.	53	32	60	36	30	18	15	9	8	5
9.	I Receive Constructive Feedback on Assignments and Assessments.	43	26	58	35	38	23	18	11	8	5
10.	The Course Pace Is Appropriate and Manageable.	45	27	60	36	35	21	18	11	8	5
Appropriate Workload											
11.	The Course Workload Is Manageable Given the Duration of The Semester.	46	28	61	37	34	20	19	11	7	4
12.	Assignments And Projects Reflect the Course Content Without Being Overwhelming.	48	29	59	35	35	21	18	11	7	4

13.	The Workload Allows Me Time to Engage in Deep Learning Rather Than Just Memorization.	44	26	57	34	39	23	20	12	7	4
14.	The Course Pace Is Appropriate and Does Not Feel Rushed.	45	27	60	36	34	20	19	11	9	5
15.	Workload Distribution Across the Semester Is Balanced And Fair.	43	26	62	37	33	20	22	13	7	4
Assessment											
16.	Assessments Accurately Reflect My Understanding of The Course Material.	50	30	58	35	33	20	17	10	9	5
17.	The Grading Criteria for Assessments Are Clear.	53	32	64	38	30	18	13	8	7	4
18.	Assessments Are Varied (e.g., Quizzes, Assignments, Exams) To Test Different Skills.	47	28	62	37	40	24	13	8	5	3
19.	I Receive Constructive Feedback That Helps Me Improve.	48	29	57	34	38	23	17	10	7	4
20.	The Assessment Methods Align with The Course Objectives.	52	31	60	36	37	22	13	8	5	3
Support Services											
21.	The Academic Support Provided by The Institution Is Helpful for My Language Learning.	55	33	62	37	30	18	15	9	5	3
22.	The Learning Resources (e.g., Online Platforms, Library Access) Are Adequate and Accessible.	53	32	65	39	30	18	15	9	4	2

23.	Administrative Support (e.g., Enrollment, Communication) Is Responsive and Efficient.	51	31	60	36	35	21	17	10	4	2
24.	I Feel Comfortable Reaching Out to Instructors or Staff For Assistance.	57	34	61	37	31	19	15	9	3	1
25.	The Academic Support Provided by The Institution Is Helpful for My Language Learning.	54	32	63	38	34	20	12	7	4	2
Technological Support and Integration											
26.	The Technological Tools Used in This Course Enhance My Learning Experience.	60	36	62	37	30	18	10	6	5	3
27.	The Online Platform (e.g., Lms) Is Easy to Navigate and Use.	58	35	65	39	30	18	11	7	3	2
28.	I Have Adequate Access to Technical Support When I Encounter Issues.	55	33	60	36	35	21	13	8	4	2
29.	Technology In the Course Allows for Interactive And Engaging Learning.	62	37	63	38	28	17	10	6	4	2
30.	I Am Comfortable Using the Technology Required in This Course.	61	36	64	38	30	18	10	6	2	1

The survey results indicate a generally positive student satisfaction across various dimensions of the English courses within SPACE UTM's Diploma Programme. Regarding course content, 63 percent of students expressed satisfaction with the relevance to academic and career goals. The organization and engagement of the content saw similar satisfaction rates, with around 66 percent satisfied and a small percentage dissatisfied. The high satisfaction levels in course content suggest that the curriculum aligns well with students' academic and career goals. This indicates that the program's content is thoughtfully designed to provide practical and valuable skills for students' future pursuits. However, the 19% neutrality and a small portion of dissatisfaction highlight an opportunity for the program to enhance further its relevance and appeal to a broader range of student interests.

In terms of instructional delivery, satisfaction was high, with 65 percent of students appreciating the clarity and effectiveness of the instructor's explanations and teaching methods, and 68 percent satisfied with the level of participation encouraged by instructors. This reflects

positively on the instructors' teaching methods and rapport with students, emphasizing the importance of interactive teaching practices in enhancing student engagement. However, the dissatisfaction (10-15 percent) from some students indicates that improvements in communication or teaching methods could help meet the needs of a few students who may struggle with the current instructional style.

Satisfaction with the workload reflects a balanced approach to course demands, with 65 percent finding it manageable and 60 percent feeling the workload allows for deep learning. This suggests that the program strikes a good balance between academic rigor and manageability, which is essential for sustained student engagement and motivation. Nonetheless, 13 percent feel overwhelmed by the workload suggests that some students may benefit from additional time management guidance or a review of assignment pacing throughout the semester.

The assessment dimension also shows favourable satisfaction rates, with 68 percent of students satisfied with the clarity of grading criteria and 64 percent affirming that assessments accurately reflect their understanding. This feedback indicates that the program's assessment methods are transparent and aligned with course objectives. However, some dissatisfaction (10 percent) suggests there is room to make assessments even more reflective of student understanding, perhaps by incorporating diverse assessment methods that accommodate different learning styles.

Feedback on support services reveals that students appreciate the academic and administrative support, with around 70% satisfied with learning resources and 65 percent with administrative support responsiveness. The overall positive response in this area suggests that the institution provides adequate resources and timely support, which are vital in helping students navigate academic challenges. The dissatisfaction reported (10 percent) may point to isolated issues in administrative response times or access to specific resources, which, if addressed, could further enhance student satisfaction.

Lastly, satisfaction in technological support and integration is notably high, with over 70 percent of students expressing comfort with course technology and finding it beneficial for learning. This positive response emphasizes the effectiveness of the program's technological tools, supporting interactive and engaging learning experiences. The low dissatisfaction rate (6 percent) suggests that while most students are well-supported technically, a small group may require additional assistance or clearer guidance on using the tools.

In summary, the data indicates strong overall satisfaction across all areas, particularly with technological integration, instructional delivery, and support services. The few areas with minor dissatisfaction suggest a focus on increased accessibility to resources, refined instructional strategies, and possibly more personalized workload management to optimize student experiences. Addressing these areas would likely improve satisfaction rates further, making the program even more supportive and aligned with students' academic and professional goals.

Conclusion

In conclusion, the survey results demonstrate a high level of student satisfaction across key dimensions of the English courses within SPACE UTM's Diploma Programme, highlighting strengths in course content, instructional delivery, workload balance, assessments, support services, and technological integration. The alignment of course content with students'

academic and career goals, as well as the interactive teaching practices and accessible support services, reflect the program's commitment to providing a well-rounded educational experience. While satisfaction levels are notably high, minor areas for improvement were identified. Enhancing the relevance of course content to accommodate diverse student interests, refining instructional methods to meet varying learning needs, and providing additional support for workload management could further elevate the student experience. Addressing these opportunities would enhance overall satisfaction, ensuring that the program continues to support student success and aligns closely with their academic and professional aspirations.

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THE DEVELOPMENT OF PADDY PLANTATION MOBILE APPLICATIONS IN MALAYSIA: A REVIEW

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Abstract: Food security is one of the criteria under the Sustainable Development Goals that needs to be strengthened. Strengthening the issue of food security must be given careful consideration. Attentive management of food supply towards the IR4.0 application can increase the production of the agriculture sector and secure the food issue. Paddy plantations are among the most stable foods in ASEAN countries. Consuming mobile applications in paddy management has a beneficial impact on paddy production. This paper aimed to review the keywords applied in mobile applications of paddy management systems. Deep learning, machine learning, artificial intelligence and bibliometrics are the most frequently used keywords in articles and journal reviews. Most applications are still in the conceptual stage. Hopefully, the development of mobile applications can facilitate the transition towards commercialisation to sustain agriculture production in Malaysia.

Keywords: Paddy plantation; Mobile application; Review; Malaysia

Introduction

The development of paddy industries in Malaysia has not grown significantly with national progress. In 2022, paddy production was approximately 2.28 million metric tonnes, a decrease of about 16% compared to the previous year. It is, therefore, time for the government to prioritise food security with a comprehensive plan and approach. Automation and digital technologies can help farmers generate more revenue and improve their output and production quality. Parallel to these initiatives, Malaysia's leading telecommunications companies have created a platform for developing IR4.0 in the agricultural sector. Figure 1 lists Malaysia's top telecommunications companies that have ventured into the agricultural sector. A gap exists in developing paddy plantation management with digital technologies.

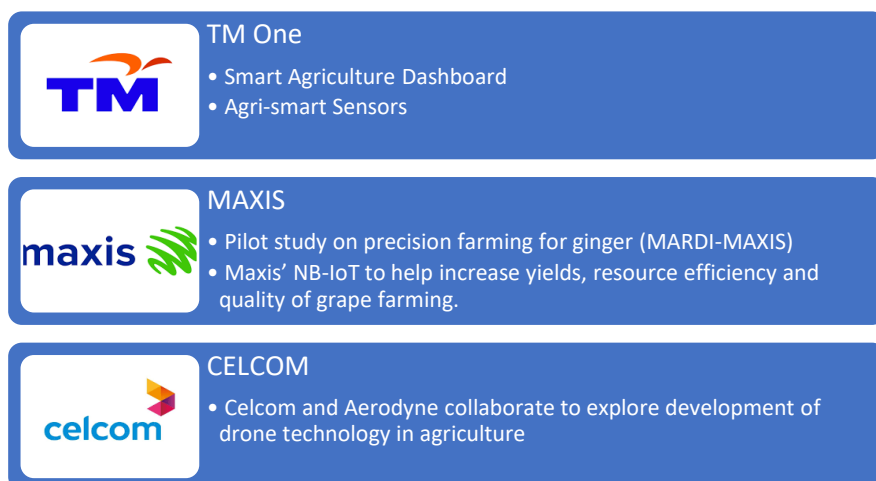


Figure 1: Malaysia's Top Telecommunications Companies That Have Ventured into The Agricultural Sector

Globally speaking, unaddressed or growing gaps in technology-driven farming practices cause Malaysia's rice industry to lag in terms of productivity and yield (Dorairaj & Govender, 2023). Malaysia is still in the new invention phase of utilising smart technologies for agricultural purposes. Technologies help acquaint farmers with digital agriculture, which allows them to manage their fields based on crop status and access information about crops (Roslin et al., 2021). The Malaysian Agricultural Research and Development Institute (MARDI) created the myPadiManager mobile application, which has assisted 200 farmers in more effectively and methodically managing their paddy cultivation (Bernama, 2020). A smartphone app called Padi2U was invented to assist farmers in maintaining their paddy management. The Padi2U application includes abundant rice varieties, agricultural authorities, planting schedules, location information, drone photos, pest and weed identification, weather forecasts and other useful information. The yield data and farmer reports are created using the mobile application development tool, Master App Builder (Athirah, Norasma, & Ismail, 2020). Table 1 lists the available smart tools for paddy applications in Malaysia.

Table 1: Smart Tools for Paddy Application In Malaysia

Name	Agency	Function	Reference
myPadiManager	MARDI	Rice yield overview.	
Padi2U	UPM	Rice management information, including aerial image analysis.	
MyPerosakPadi	MARDI	Information to farmers about identifying and managing pests, diseases and weeds in rice fields.	
Rice Check	Department of Agriculture Malaysia	Provide guidance and notification to rice plant operators for each seasonal	

AgriMaths

Department of
Agriculture

activity according to the best rice
planting practices.
Basic agricultural math guide and
calculator application.



This paper aims to review the keywords applied in the mobile applications of paddy management systems.

Methodology

This study applied the concept of systematic literature review (SLR). This independent academic method seeks to identify and evaluate all relevant literature to reach conclusions based on the question under consideration. Three major steps are involved: (1) identification, (2) screening and evaluation and (3) the review process. Figure 2 depicts the detailed research flow.

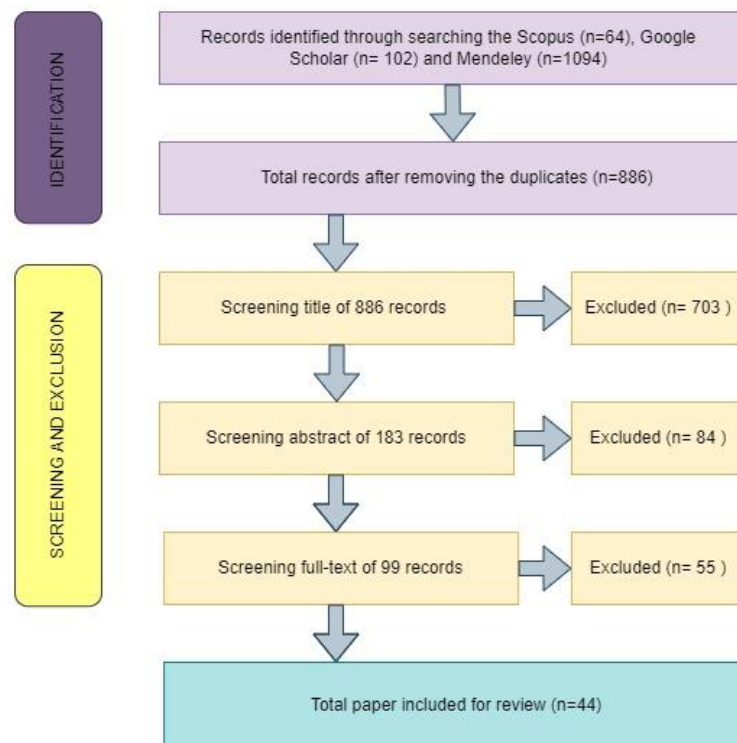


Figure 2: Research Flow

Subsequently, three databases were used for the search approach, which included selecting databases and creating and executing search strings to find potential studies: Google Scholar, Scopus and Mendeley. Details about the results obtained for each database are tabulated in Table 2. When pertinent studies became available, they were chosen and evaluated following a set of quality standards and methods. This study excluded several articles due to their type of report, non-English content and lack of open access.

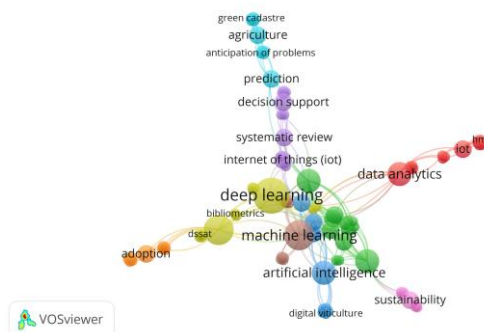
Table 2: Search Results for Each Database

Database	Keyword	Screening Process (Number of articles)		
		Title	Abstract	Full text
Google Scholar	“Paddy smart farming” “mobile application” “paddy plantation” OR “Rice cultivation” OR “crop management” OR “Mobile application” OR “Smartphone” OR “Android application” OR “smart farming” OR “Rice cultivation” “crop management”	90	27	6
Scopus	“Paddy plantation” OR “Rice cultivation” OR “crop management” AND “Mobile application” OR “Smartphone” OR “Android application” OR “smart farming”	62	47	32
Mendeley	Paddy; Crop Management; Smart Farming; Mobile Application	782	25	6

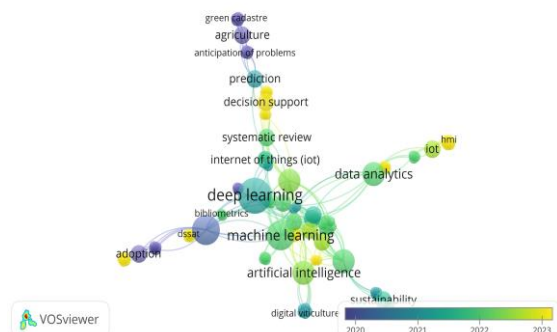
Result and Discussion

Scopus Database Demography

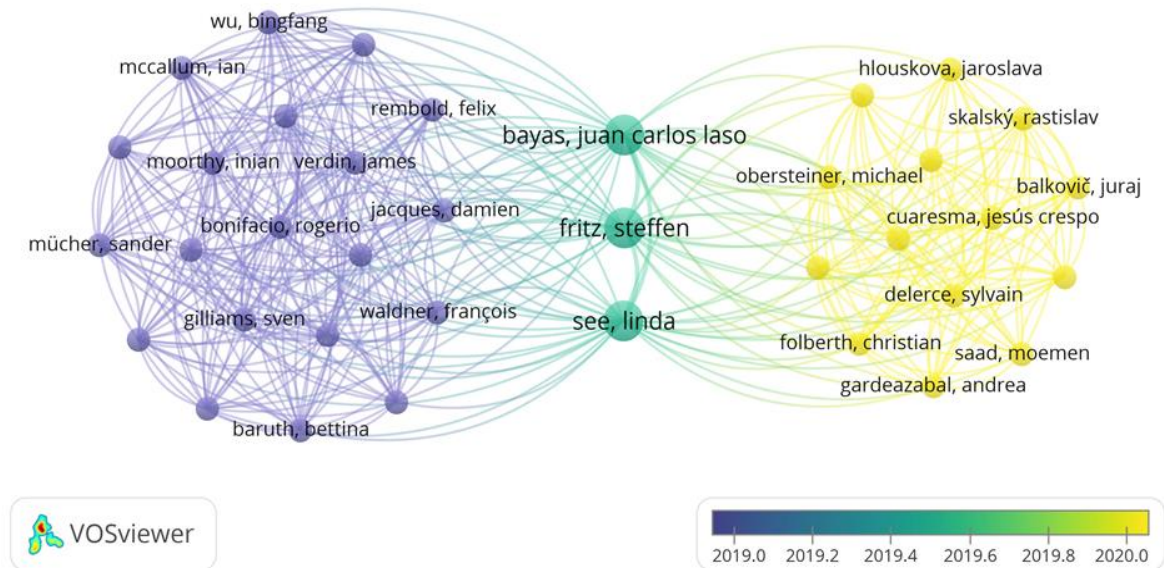
The three main parameters in a demographic are cluster, author and year. Under the cluster classification, there are 12 classifications. Data analytics in the Internet of Things (IoT) has been a growing topic in 2023. Adoption and decision-support technology are two related topics that have recently gained popularity. Fortunately, the total amount of scholars declined between 2019 and 2023.



(a) cluster



(b) year



(c) Author
Figure 3: Demographic Structure for This Review: (A) Cluster, (B) Year And (C) Author

Keyword Cluster

Twelve clusters were found in this study. Figure 4 tabulates the keyword structure, while Table 3 lists the item classification for each cluster. Cluster 9 is the study's most significant cluster, focusing on deep learning and agriculture automation. This outcome implies that complex machine learning is being examined, for example, to identify leaf disease. Recently, the most popular items on adopting the Internet of Things in the agriculture sector have been researched. Consequently, vineyards are the most advanced, with a publicly advertised robotic monitoring system for plantations. Remarkably, clusters 1 and 11 encompassed bibliometrics, pointing out that there is still a possibility and desire to review all outputs from various viewpoints.

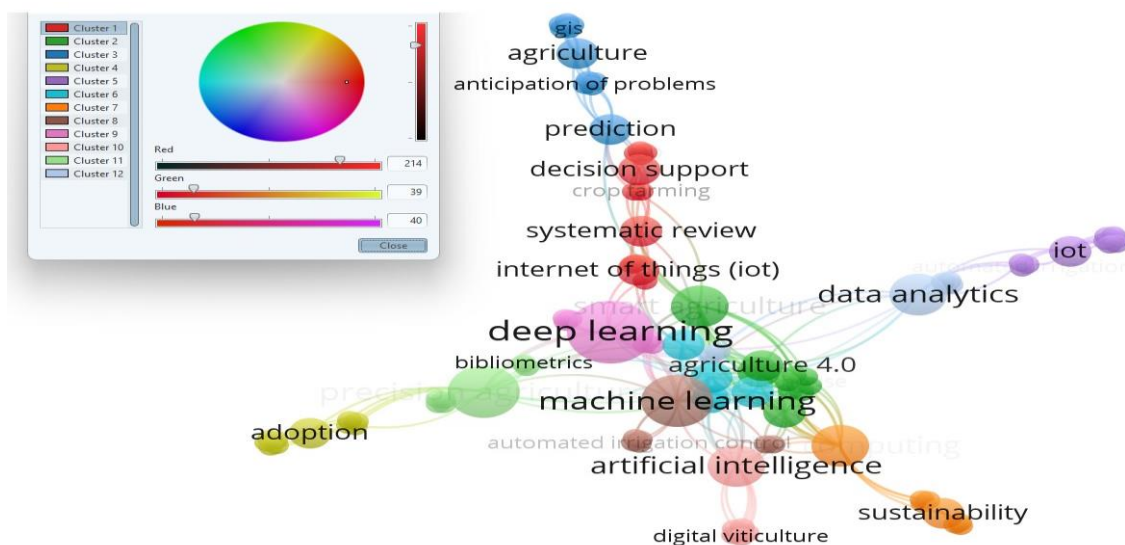


Figure 4: Keyword Structure

Table 3: Item Classification for Each Cluster

Cluster 1 Crop Farming; Data Analytic; Decision Support; FMIS; Internet of Things; Machine Learning; Smart Environment; Software Function; Systematic Review; CAP	
Cluster 2 Agriculture 4.0; Data House; Data Lake; Dew Computing; Fog Computing; Kappa Architecture; Lambda Architecture; Micro Service Architecture; Osmotic Computing; Smart Agriculture; Smart Farming	
Cluster 3 Agriculture; Anticipation of Problem; Arima; GIS; Green Cadastre; Inspire; Land Administration System; LoRa; Prediction; Spatial Data Infrastructure; Wireless Sensor Network	
Cluster 4 Adoption; Computer-Based Technology; Decision Support Technology; Farm Machinery; Farm Management; Farm Software; Logistic Regression; Profitability; Regression; Small Farms	
Cluster 5 Automated Irrigation; Fusion System; Fuzzy Control; Greenhouse; HMI; IOT; IOT Challenges; IOT Smart Farming; Node-Red; WSN	
Cluster 6 Authenticity; Big Data; Blockchain; Food Fraud; Food Quality; Industry 4.0; Internet of Things; Safety	
Cluster 7 Digital Technologies; Digital Transformation; Edge Computing; Mobile Application; Modern Agriculture; Site-Specific Nutrient Management; Smart Farm; Sustainability	
Cluster 8 Automated Irrigation Control; Cloud Computing; Edge AI; Machine Learning; Precision Agriculture; Smart Farming; Unmanned Aerial Vehicles (UAV)	
Cluster 9 Agriculture Automation; Computer Vision; Deep Learning; Rice Leaf Disease Identification; Support Vector Machine; Transfer Learning; Visions Transformers	
Cluster 10 Artificial Intelligence; Digital Viticulture; Precision Viticulture; Remote and Proximal Sensing; Vineyard Monitoring; Vineyard Robotics	
Cluster 11 Bibliometrics; DSSAT; Environment; ID Crop; Irrigation Scheduling; Plant Stress Sensors; Precision Agriculture	
Cluster 12 Agriculture IOT; Controller; Data Analytics; Farm Automation; Internet of Underground; Smart Sensor; UAV	

Cluster 1

This cluster consisted of 12 items. The most frequent keywords in cluster 1 were systematic review (Hajjaji et al., 2021; Thomas et al., 2023), decision support (Melzer et al., 2023; Reza et al., 2022), Internet of Things (Andrianto et al., 2022, 2023; Hassoun et al., 2023; Li et al., 2019; Lytos et al., 2020; Reza et al., 2022; Senapaty et al., 2023) and crop farming (Thomas et al., 2023). Cluster 1 has relationships with deep learning (cluster 9), smart agriculture (cluster 2) and prediction (cluster 3). The publications in cluster 1 were mostly published from 2022 to

2023. The trend of cluster 1 in the aspect of year indicated that the research started with Internet of Things, systematic review and decision support. Recently, studies are practically designed to help farmers decide on accuracy and effective productivity. The implementation of a Farm Management Information System (FMIS) is one of the solutions for the decision-making process (Fountas et al., 2015).

Cluster 2

Cluster 2 comprised 11 items. Agriculture 4.0 (Raj et al., 2021; Sharma et al., 2022) and smart agriculture (Bharadwaja et al., 2021) were among the most applicable keywords in this cluster. Cluster 2 showed a link with cluster deep learning (cluster 9), precision agriculture (cluster 11), machine learning (cluster 8), edge computing (cluster 7) and data analytics (cluster 12). These clusters strongly discussed available technologies that help to increase agriculture production, such as IoT, unmanned aerial vehicles (UAVs), Internet of Underwater Things (IoUT), big data analytics, deep learning techniques and machine learning (Raj et al., 2021).

Cluster 3

Cluster 3 contained 11 items. All of the items have similar weight. This cluster involved agriculture (Madushanki et al., 2019), anticipation of problems (dos Santos et al., 2019), geographic information system (GIS) (Dawidowicz et al., 2020), green cadastre (Dawidowicz et al., 2020), INSPIRE (Dawidowicz et al., 2020), land administration system (Dawidowicz et al., 2020; dos Santos et al., 2019), LoRa (dos Santos et al., 2019), prediction (dos Santos et al., 2019; Thomas et al., 2023), spatial data infrastructure (Dawidowicz et al., 2020) and wireless sensor network (dos Santos et al., 2019). Only prediction was connected to decision support, crop farming and systematic review (cluster 1) and smart agriculture (cluster 2).

Cluster 4

Cluster 4 consisted of 10 items. The most significant items in this cluster were computer-based technologies (Gyawali et al., 2023), adoption (Fountas et al., 2015; Gyawali et al., 2023) and decision support system (Reza et al., 2022). Adoption and decision support system had connections with precision agriculture (cluster 11).

Cluster 5

Cluster 5 had 10 items. Automated irrigation (Sinha & Dhanalakshmi, 2022), IoT and fusion system (Benyezza et al., 2023) were among the highest occurrences. This cluster was connected to data analytics (cluster 12).

Cluster 6

This cluster contained eight items. Big data (Hassoun et al., 2023), IoT (Andrianto et al., 2022, 2023; Hassoun et al., 2023; Li et al., 2019; Lytos et al., 2020; Reza et al., 2022; Senapaty et al., 2023), authenticity (Hassoun et al., 2023) and blockchain (Hassoun et al., 2023). This cluster was linked to the highest number of clusters. Big data was connected to systematic review (cluster 1) and deep learning. Block chain was linked to smart agriculture, agriculture 4.0 and fog computing in cluster 2. Edge computing (cluster 7) and artificial intelligence (cluster 10) were also connected to block chain.

Cluster 7

Cluster 7 comprised eight items. The most occurrences were digital technologies (Mendes et al., 2022), sustainability (Hyun et al., 2021; Mendes et al., 2022), mobile applications (Soundar et al., 2017) and edge computing (Hyun et al., 2021; Singh & Gill, 2023). Only edge computing was connected to cloud computing and machine learning in cluster 8. The connection in cluster 2 involved smart agriculture, agriculture 4.0 and fog computing. Lastly, there was a link to artificial intelligence in cluster 10.

Cluster 8

This cluster contained seven items. The most frequent keywords were machine learning (Akhter & Sofi, 2022; Shaikh et al., 2022; Dhanya et al., 2022; Lytos et al., 2020; Rahman et al., 2023; Raj et al., 2021; Sharma et al., 2022; Singh & Gill, 2023), cloud computing (Chaudhari et al., 2018; Gumaste & Kadam, 2016; Parkavi et al., 2023; Singh & Gill, 2023) and automated irrigation control (Shaikh et al., 2022). Machine learning was connected to seven different clusters.

Cluster 9

Cluster 9 consisted of seven items. Deep learning (Coulibaly et al., 2022; Dhanya et al., 2022; Raj et al., 2021; Sethy et al., 2020) and agriculture automation (Dhanya et al., 2022) were among the most occurrences in this cluster. Deep learning had a connection with systematic review and IoT (cluster 1), smart agriculture and agriculture 4.0 (cluster 2), big data (cluster 6), machine learning (cluster 8) and precision agriculture and bibliometric (cluster 11).

Cluster 10

This cluster comprised seven items. Artificial intelligence (Elsayed et al., 2018; Hassoun et al., 2023; Singh & Gill, 2023; Tardaguila et al., 2021) and digital viticulture (Tardaguila et al., 2021) were the most applied keywords in this cluster. Artificial intelligence was connected to machine learning (cluster 8), big data and IoT (cluster 6), fog computing (cluster 2) and edge computing (cluster 7).

Cluster 11

Cluster 11 had seven items. Precision agriculture (Ale et al., 2023; Shaikh et al., 2022; Cheema et al., 2022; Coulibaly et al., 2022; Darwin et al., 2021; Fountas et al., 2015; Jaafar & Kharroubi, 2021; Kassim et al., 2022; Martos et al., 2021; Moutsinas et al., 2022; Narmilan & Puvanitha, 2020; Raj et al., 2021; Senapaty et al., 2023; Sharma et al., 2022) and bibliometric (Coulibaly et al., 2022) were the most frequent in this cluster. This cluster had a relationship with adoption and decision support system (cluster 4), deep learning (cluster 9), agriculture 4.0 (cluster 2), data analytics (cluster 12), IoT (cluster 6) and machine learning (cluster 8).

Cluster 12

This cluster consisted of seven items. Data analytics (Akhter & Sofi, 2022; Pathmudi et al., 2023; Raj et al., 2021; Sinha & Dhanalakshmi, 2022) and agriculture IOT (Pathmudi et al., 2023) were the most occurrences in this cluster. Data analytics were connected to automated

irrigation (cluster 5), agriculture 4.0 (cluster 2), machine learning (cluster 8), precision agriculture (cluster 11), IoT (cluster 6) and deep learning (cluster 9).

Discussion

Current research specifically on paddy towards mobile applications are still lacking. Most of the research emphasise technical aspects on combining powerful computation and datasets to enable problem solving by using artificial intelligence. This application is used to mitigate towards digitalisation. The perspective of social science from the economic point of view, as well as safety and social acceptance issues, remains inadequate and needs to be examined further in the future. The technical and social aspects are crucial for the successful implementation of these cutting-edge developments in agriculture. Figure 5 summarises the results for the relationships between artificial intelligence, machine learning and deep learning items. The most frequent keywords in these studies were deep learning, machine learning and artificial intelligence. Deep learning meant using artificial neural networks to reach accurate conclusions without human intervention. With improved computing performance and huge datasets, the application of deep learning is very effective in many fields. Deep learning can make a decisive contribution to the analysis of agricultural data to enable machines automatically analyse and understand the visual world. For example, applications of deep learning in agriculture are: (1) seed quality analysis, (2) soil analysis, (3) irrigation management, (4) crop health analysis and (5) weed management. Nevertheless, the adoption of these advanced technologies is relatively slow and requires high initial investment, local expertise and data privacy concerns. Concentration on the keywords in the paddy plantation is still essential. The available study found in the vineyard was on artificial intelligence.

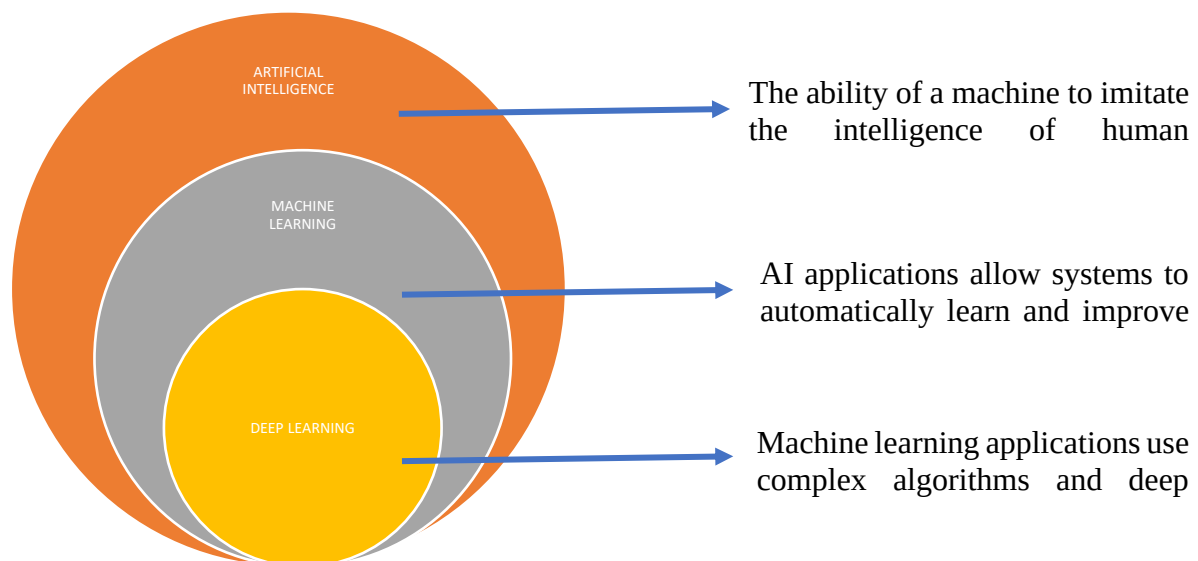


Figure 5: Summary of the Output

Conclusion

Mobile applications in paddy plantations are still in the growth phase of performance. There is huge potential in using mobile applications for the entire cycle of paddy management in Malaysia. The utilisation of this new technology would have a positive impact on paddy production in Malaysia. This technology will create more sustainable ways in the country's agriculture sector.

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MARITAL RIGHTS UNDER ISLAMIC LAW, CIVIL LAW, AND CUSTOMARY LAW: REMEDIES FOR BATTERED WIVES AMONG MERANAW FAMILIES IN LANA DEL SUR

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Abstract: *Our society has neglected many issues and problems, including battered wives among Meranaw families in Lanao del Sur. They are presumed to be scared to fight for their rights as Muslim women and are sometimes unaware of their marital rights as Muslims. The study was an attempt to determine the causes of occurrence of battered wives among Meranaw families in select municipalities in Lanao del Sur, to highlight the marital rights of Meranaw spouses under Islamic law, Philippine civil law, and customary law and to determine the perceived remedies to lessen the cases of battered wives. The study employed a case study design with a qualitative approach for collecting primary data from the informants through interviews. The researcher used purposive sampling to gather data from the battered wives (n=15), which were then transcribed, analyzed, and interpreted. Results reveal that most respondents are not well-oriented on their rights and obligations as a wife, and so are their husbands. Several factors for the occurrence of battered wives are the husband's vices, neglected obligations of spouses, arranged or forced marriage, and the husband's suspicion and jealousy. Respondents' perceived remedies that may lessen domestic violence include marriage counseling before and during the marriage, divorcing the spouse due to unbearable suffering, and getting to know each other before marriage, among others. Due to the sensitivity of the issue among the Meranaws, this study was limited only to the cases of fifteen (15) battered wives among Meranaw families. The study would greatly benefit the Shari'ah Counselors, lawyers, parents, spouses, instructors, students, the Bangsamoro people, and the community. This study provides a comparative analysis of how these three legal systems interact, overlap, and conflict in addressing marital abuse. The research also highlights the unique cultural dynamics of the Meranaw people, offering new insights into the influence of customary practices on the enforcement of women's rights. By integrating these perspectives, the study contributes a holistic framework for understanding and resolving the challenges battered wives face within plural legal systems, filling a critical gap in the existing literature.*

Keywords: *Battered Wife, Domestic Violence, Ra 9262, Marital Rights, Muslim Meranaw Women*

Introduction

Islam has always maintained that marriage is beneficial. It views marriage as an equal partnership between two people, which they gain through mutual respect, love, and trust. However, in some cases, problems arise between couples, one of which is the issue of battered wives among Meranaw families in Lanao del Sur. The Meranaw battered wives are presumed to be scared to fight for their rights as Muslim women, and sometimes, they are unaware of their marital rights as Muslims. Various shreds of evidence prove that some Meranaw women have been experiencing battery in their households.

Carlos and Cuadra (2017) espoused that in the Meranaw tribe, not until the man says he will divorce his wife and return her to her parents can the wife divorce his husband. Desai and Haffajee (2011) argued that male domination due to patriarchy in the Muslim community contributes to maintaining violence against women at a personal level. With all these links to why women are abused physically, emotionally, and psychologically, among others, literature shows that violence against women in Muslim communities remained in silence as it anchors upon the decision of the wife and her family to keep the problem to themselves (Douki, et al., 2003;

Violence is not only shaped by physical violence but also by other forms of structural violence, including arranged marriage. Hildon's ethnographic accounts of violence in the Philippines (Manderson & Bennett, 2003) argue that the lack of marital and sexual choice experienced by young Meranaw women is a form of violence. The United Nations defines violence against women as "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life." The World Health Organization recognizes that violence, particularly intimate partner violence and sexual violence – is a major public health problem and a violation of women's human rights.

Furthermore, the WHO (2021) revealed that over a quarter of women aged 15-49 years who have been in a relationship have been subjected to physical and/or sexual violence by their intimate partner at least once in their lifetime (since age 15). The prevalence estimates of lifetime intimate partner violence report that 33% of this violence happened in the Southeast Asia region. Some of the consequences of violence include depression, post-traumatic stress and other anxiety disorders, sleep difficulties, eating disorders, and suicide attempts. The researcher was motivated to conduct this study due to the prevalence of untold women battery cases in the Meranaw society, and the researcher has been witnessing this problem in her surroundings. WHO further espoused that violence against women tends to increase during every type of wide emergency, as it did during the COVID-19 pandemic, which is in corroboration with the study of Sanchez et al. (2020)

In the summary of special cases drawn from the City Social Welfare and Development Office of Marawi City, Lanao del Sur, as of C.Y. 2001-2022, twenty-seven (27) cases of battered wives among Meranaw families in Lanao del Sur that have been reported in their office. Additionally, the other agencies in Lanao del Sur, specifically the Ministry of Social Service and Development (MSSD), have reported a total of twelve (12) cases of domestic violence from June 2021 to July 2021 from different municipalities in Lanao del Sur. The Bangsamoro Women Commission – Lanao del Sur has also been handling cases involving women, such as battered wife cases. Referred by the BWC-Region, they have a record of one (1) battered wife (newly married) case, and their office has solved it. Also, they have two (2) reported cases of battered wives, but they withdrew because their families solved it. Lastly, at the Provincial Women and Child Protection Desk Lanao del Sur Police Provincial Office, there are three hundred thirty-eight (38) cases that were reported in their office from 2016-2022. However, both parties' families amicably settled most.

This study tried to investigate women who were struggling with their husbands due to women's battery. The battered wives in Lanao del Sur should know their marital rights according to Islamic law, civil law, and customary law. Likewise, the unoriented husbands will also be informed of their rights and obligations as husbands according to the law; thus, the study hopes to contribute significant information to society, especially to Meranaw women.

The primary aims of this study are to accomplish the following objectives: to highlight the marital rights of the Meranaw couples under Islamic law, civil law, and customary law; to find out the factors contributing to the occurrence of battered wives among Meranaw families in Lanao del Sur; and to discover the remedies to address the issues of battered wives among Meranaw families in Lanao del Sur.

Literature Review

Nature of “Women Battering”

A big population of women who show up in emergency rooms of hospitals for treatment of injuries are victims of a phenomenon known as “wife battering”. Wife battering refers to violent acts such as psychological, sexual or physical assault by an assailant against his partner with the intent of controlling by inducing fear and pain and It is a common incident being violated under RA 9262 (Lu, 2017).

Battering is not about couples beating each other up and totally disrupting the neighborhood but rather, one partner is beating, intimidating, and terrorizing the other (Charlsen, 1995). It is not mutual “combat” or two people in a fistfight but one person, usually the man, dominating and controlling the woman. This phenomenon is common, which occurs usually in poor or poorly educated families but there are doctors, ministers, psychologists, cops, attorneys, judges and other professionals who beat their wives as well. Battering also happens in rich, educated, and respectable families (Cruz, 2012).

Moreover, it is said to be that when there is violence in the family, not all members of the family are accountable. The perpetrator alone can stop the violence. Many women who are battered make numerous attempts to change their behavior in the hope that this will stop the abuse, but this does not work. Changes in the family member’s behavior will not cause or influence the batterer to be non-violent.

In addition, battering is a pattern of behavior used to establish power and control over another person through fear, intimidation, and threat or use of violence. It happens when one person believes they are entitled to control another (Kickham, 2021).

In relation to the nature of battering, the question “why do men batter?” prevails. One reason why men batter is because they are able and they can. By battering, they maintain power and control in a relationship (Brewster, 2003). This points out to physical dominance as a fact which causes battering. Also, men batter because their abuse is not confronted clearly as “violence against women”. Traditionally and historically, a man has been viewed as “the breadwinner”, “the king of the castle”, and the “head of the home”. Some men derive power and status from ordering their homes according to their will. Battering also occurs because laws to protect victims are not well reinforced, resources to help victims are scanty, and many service providers do not understand the dynamics of domestic violence. Also, in most cultures, men tend to see females as objects created for their pleasures. Many churches and other institutions tend not to view physical violence toward women a criminal act (Davis, 1998).

Lastly, various individuals and groups have defined domestic violence to include everything from saying demeaning words, to grabbing a person’s arm, to hitting, kicking, choking, or murdering. Battering most often refers to violence between married or cohabiting couples. It

occurs in every racial, socioeconomic, ethnic, and religious group, although conditions such as poverty, drug or alcohol abuse, and mental illness increase its likelihood (Baker, 2008).

Battered Woman Syndrome

Battered Woman Syndrome (BWS) is a legal defense for victims of violence against women and their children, even if self-defense elements are not present. The Philippine Civil Law enacts Republic Act No. 9262, dated March 8, 2004, which defines violence against women and their children as any act or series of acts committed by a person against a woman, including physical, sexual, psychological, or economic abuse.

The Act defines various types of violence, including physical violence, sexual violence, psychological violence, and prostitution. Physical violence includes bodily harm, sexual violence includes sexual harassment, and psychological violence includes acts causing mental or emotional suffering. Economic abuse involves acts that make a woman financially dependent, such as withdrawing financial support, deprivation of financial resources, destruction of household property, and controlling the victims' own money or properties.

Battery refers to an act of inflicting physical harm upon the woman or her child, resulting in physical and psychological distress. BWS is a scientifically defined pattern of psychological and behavioral symptoms found in women living in battering relationships due to cumulative abuse. Stalking is an intentional act committed by a person who follows a woman or her child without lawful justification. Dating relationships are situations where the parties live as spouses without the benefit of marriage or are romantically involved over time and on a continuing basis during the relationship. Sexual relations refer to a single sexual act that may or may not result in the bearing of a common child. In summary, the Philippine Civil Law enacts Republic Act No. 9262 to protect victims of violence against women and their children, ensuring they are protected from criminal and civil liability.

The text defines "safe place or shelter" as a home or institution maintained by the Department of Social Welfare and Development (DSWD) or other accredited agencies for this Act. It also includes "children" as those under 18 who are incapable of taking care of themselves.

The crime of violence against women and their children is committed through various acts, including causing physical harm, threats to cause physical harm, attempting to cause harm, placing the child in fear of imminent harm, compelling or compelling them to engage in conduct that they have the right to desist from, or restricting their freedom of movement or conduct by force or threat of force. This includes threatening to deprive the woman or her child of custody, depriving them of financial support legally due to them, depriving them of a legal right, preventing them from engaging in legitimate professions or activities, inflicting physical harm on themselves, causing sexual activity that does not constitute rape, engaging in purposeful, knowing, or reckless conduct that alarms or causes substantial emotional or psychological distress, stalking or following the woman or her child, peering in the window or lingering outside the residence, entering or remaining in the dwelling or on the property against her will, destroying property and personal belongings, engaging in harassment or violence, and causing mental or emotional anguish, public ridicule, or humiliation to the woman or her child.

Penalties for acts falling under Section 5 include imprisonment of two degrees lower than the prescribed penalty for the consummated crime, arresto mayor, arresto mayor, prision correccional, arresto mayor, prision mayor, arresto mayor, prision mayor, and mandatory

psychological counseling or psychiatric treatment. If the acts are committed while the woman or child is pregnant or in the presence of her child, the maximum period of penalty prescribed in the section applies.

Protection orders are legal measures issued to prevent further acts of violence against a woman or her child, as specified in Section 5 of the Act. These orders provide necessary relief to safeguard the victim from further harm, minimize disruption in their daily life, and enable them to regain control over their life. The protection orders can be barangay protection orders (BPO), temporary protection orders (TPO), and permanent protection orders (PPO).

Reliefs under these orders include prohibition of the respondent from committing any of the acts mentioned in Section 5, prohibition of harassing or contacting the petitioner, removal and exclusion of the respondent from the petitioner's residence, direction to stay away from the petitioner and designated family members, lawful possession and use of an automobile and other essential personal effects, temporary or permanent custody of a child/children, provision of support to the woman and/or her child if entitled to legal support, and prohibition of the respondent from using or possessing firearms or deadly weapons.

A petition for protection order may be filed by the offended party, parents or guardians, ascendants, descendants, officers or social workers of the DSWD or local government units (LGUs), police officers, Punong Barangay or Barangay Kagawad, lawyer, counselor, therapist, or healthcare provider, and at least two concerned responsible citizens of the city or municipality where the violence against women and their children occurred and who has personal knowledge of the offense committed.

Applying for a BPO must follow the rules on venue under Section 409 of the Local Government Code of 1991 and its implementing rules and regulations. An application for a TPO or PPO may be filed in the regional trial court, metropolitan trial court, municipal trial court, or municipal circuit trial court with territorial jurisdiction over the petitioner's place of residence. If a family court exists in the place of residence, the application shall be filed with that court.

Rights, Dignity, Honour and Status of Women in Islam

Islam upholds the rights, dignity, honor, and status of women by ensuring gender equality and equal rights for both males and females in every area of human life. In Islam, women are completely self-regulating, have legal personalities, and can enter into contracts or make bequests in their name. They have the right to perform any profession or business and have the authority to dispose of their property as men. Women are entitled to inheritance in different capacities, such as being a mother, wife, sister, and daughter.

The Holy Quran commands Muslims to demonstrate respect to their mothers and serve them well even if they leave Islam and remain unbelievers. The Prophet (peace be upon him) states that the rights of the mother are supreme in Islam. In Islam, women are most respectable and honorable, as they are most respectable and honorable when they are a wife, a mother, a daughter, or a daughter; it is the blessing of Almighty Allah.

The different types of rights of women ensured in Islam include inheritance, marriage, and dower. Pre-Islamic customs relating to succession were biased, vindictive, and unreasonable and, in most cases, violated justice. Islam ensured the inheritance rights of women many centuries ago, unlike in Western countries. In Islamic law of inheritance, there are eight classes

of persons: wives, mothers, daughters, sisters, and daughters. Parents could distribute property equally between a son and a daughter.

Marriage is treated as the basis of social life and the beginning of the family life. It is compulsory for a man who has the means to easily pay the dower (Mahr) and bear the expenses of a wife and children and who is also physically fit. It is obligatory for a woman who does not have any other legal way of maintaining herself and who doubts that her sexual urge may move her forward into adultery. In Islam, marriage is an act for the pleasure of Allah because it is according to His orders that husband and wife love each other and help each other to make efforts to continue the human race and rear and foster their children to become true servants of Allah.

In the case of marriage, Islam gives equal importance to both bride and groom. For a valid marriage, any party may offer to the other party, and the other party must accept it must accept it. Through valid marriage, mutual rights of inheritance are established, and the wife becomes entitled to her dower and maintenance. However, marriages do not give power to the husband over the wife's person beyond the limit of law and right upon her goods and property.

In marriage, women are at liberty to choose their life partner. No one can force her to choose her mate or marry even one's father, mother, brother, sister, or any paternal or maternal guardian. Marriage of a major woman previously married without her consent is unanimously void, and marriage of a major virgin girl without her consent is unlawful. Islam showed full respect to women and ensured the rights, dignity, honor, and equal status of men and women in case of marriage.

In the pre-Islamic period, a dower was given to the wife's father or other guardian as a token of respect and could imply a sell price. Islam approved the dower (mahr) to be paid to the wife in case of regular marriage with respect and not at a selling price. A dower can be a sum of money or property that the wife is legally entitled to get as a token of respect from the husband. Islam has given importance to the payment of dowers and imposed a duty on the husband to pay for them. The holy Quran states, "Give women (wives) their dower with no strings attached. If they themselves (wives) give some of it back to you (waive it), then consume it (dower) with good cheers."

The husband must pay the dower to the wife either in cash or any other form, and there is no way to deny his liability except by paying the dower. It is like a debt or duty for the husband to pay the dower and the right of the wife to receive it. In the case of a dower, Islam has shown respect and given full authority to the wife as she can demand her dower at any time without any explanation and can waive full or any part of her dower as she likes. If the amount of dower was not settled during the time of marriage or later, the wife is entitled to proper dower.

Maintenance (nafaqa) is a significant issue in Muslim personal law. Under Muslim law, maintenance is due to the wife from the husband as a recompense for matrimonial restraint. It is one of the necessary and inherent conditions of the marriage contract. The husband's responsibility is to provide proper maintenance, and it must be discharged cheerfully without any censure, hurt, or patronization. A wife can demand maintenance during her sickness in her husband's house, and even if a man divorces his wife, her bread and accommodation are attributed to him during the period of iddat (remaining unmarried for three months after dissolution of marriage). In conclusion, Islam ensures the right of a woman to receive

maintenance from her husband and does not impose liability upon the wife to bear the expenses of the family or her husband on any condition.

In the Dark Age, when Islam did not emerge among Arabs, only the husband had the power of divorce, which was so unrestricted and unlimited that he practiced it in the most inhuman ways. The husband could divorce his wife whenever he liked without any legal or reasonable cause, and he could revoke his divorce and divorce again as many times as he favored. He could also swear that he had made no sexual relation with his wife, though he was still living with her. The husband exercised limitless rights over the wife, and if a man became angry with his wife, he could divorce her at once. However, the unfortunate wife could not have recourse to any legal procedure, get any maintenance from him, or claim any other kind of right from him. Regarding the right to divorce, men enjoyed vast powers and could easily get rid of their wives by leveling a flimsy charge against them.

The Prophet (peace be upon him) was tremendously dissatisfied with these evil customs of divorce and regarded their practice as damaging the foundation of society. In case of extreme emergency, Islam permitted divorce if all efforts to reunite had been unsuccessful. Islam recognized that when it has become impossible to continue conjugal life, both husband and wife should separate harmoniously rather than miserably bound together, which turns the home into hell.

The rectification of Prophet Mohammad marked a new departure in the history of Eastern legislation. He reserved unrestricted power of divorce by the husband but also gave the wife the right to obtain the partition on rational grounds. Though divorce is allowed in Islam with some conditions, it discourages the dissolution of a marriage tie. Islam has given women the right to dissolution of marriage by:

- 1) Delegated divorce (Talaque-e-tafweez), where the husband delegates the power of dissolution of marriage to the wife. This delegation of power can be during the marriage or at any time after marriage.
- 2) Redemption (Khul'a), where both husband and wife agree to break off their marriage in lieu of a recompense paid by the wife to her husband out of her property. If the relationship between a husband and a wife is not fine, the wife has a right to seek divorce (khul'akhula).

Right to Proprietorship, where both husband and wife have the right to choose their profession. However, they must be more conscious before involving any profession that will deprive them of their conjugal rights or children from maternal love, care, affection, and proper education and training. Islam grants equal respect to women in terms of property ownership, knowledge acquisition, political independence, and residence choices. Women can gain property through lawful means and dispose of it as they wish without interference from their husbands or children. They are not responsible for bearing the family's expenses or their children's maintenance.

In Islam, women have the right to seek knowledge, which is obligatory for both men and women. Unmarried women have full freedom to acquire knowledge, while married women have the right to choose their residence based on their husband's ability and benefit. However, they must follow the directions of Islam to ensure that the dignity of the family is maintained.

Muslim women are allowed to engage in economic activities following certain rules, such as teaching, medical professions, welfare institutions, and handling juvenile delinquents and drop-outs. However, they must adhere to strict Islamic codes of conduct in the classroom. In the medical field, women doctors are needed in gynecology and obstetrics, but they are encouraged to consult male doctors in exceptional circumstances. Women were not forbidden to leave their homes for necessity, as seen during the time of the Prophet (peace be upon him). Jabir ibn Abdullah recounts a story about her aunt's being told by her husband that she could go outside her house during iddat to harvest and sell date palms, but the Prophet (peace be upon him) allowed her to do so.

Presentation, Analysis, and Interpretation of Findings

A. Marital Rights of a Meranaw Spouse under Islamic Law, Civil Law, and Customary Law

One of the objectives of this study was to highlight marital rights under Islamic law, Civil law, and Customary law. The researcher discussed marital rights under Islamic Law, Civil Law, and Customary Law with the fifteen (15) respondents of battered wives in select municipalities in Lanao del Sur. The researcher distributed a copy of these marital rights under Islamic law, Civil law, and Customary law to the fifteen (15) respondents. However, some of the respondents refused to have a copy since it was not translated into their dialect, and they needed help understanding the texts. The researcher discussed the rights and obligations in their preferred dialect. The researcher highlighted the rights and obligations between husband and wife so that they could distinguish and help lessen their burdens or problems to their spouses. The researcher found out that most of the respondents needed to be better known about their rights and obligations. The respondents were now able to know the three laws that the researcher discussed with them and depended on them on what to follow. Most of the respondents preferred Islamic law since they were Muslim Meranaws, and only a few chose the customary law and none of the civil law. The respondents realized that most of the rights and obligations were not practiced by both spouses.

Table 1: Number of Respondents Who are Aware of their Marital Rights Under the Islamic Law, Civil Law, and Customary Law

	No. of Respondents
Islamic Law	3
Civil Law	1
Customary Law	2
Unaware of Marital Rights under the Three Laws	6
Total	15

B. The Factors for the Occurrence of Battered Wives Among Meranaw Families in Lanao del Sur

The researcher was able to gather four (4) major factors for the occurrence of battered wives among Meranaw families as a result of interviews with fifteen (15) battered wives as respondents among Meranaw families from select municipalities in Lanao del Sur. These were Vices, Neglected Obligations of Wife and Husband, Arranged and Forced Marriage, and Suspicion and Jealousy.

1. Vices

The findings of the study indicated that vices were one of the factors contributing to the occurrence of battered wives among Meranaw families in Lanao del Sur. These vices included gambling, drinking alcoholic beverages, using drugs, getting involved with other women, and being a sexual pervert. The responders were victims of psychological, physical, and sexual abuse. Five (5) of the fifteen (15) respondents stated that this is the reason they become battered wives.

2. Neglected Obligations of Wife and Husband

This is one of the most common issues between spouses, as most respondents are unaware of their rights and obligations as wives and husbands, which leads to negligence. Most of the respondents provide for their families because their husbands are unemployed, which is why there is always a conflict between the respondents and their spouses.

3. Arranged and Force Marriage

The researcher also found out that arranged marriage and forced marriage is one of the factors. Two (2) respondents had arranged marriage by their parents, and one (1) had forced marriage. The respondent forced his husband to marry her due to unintentionally pregnant her. They call it in the Meranaw dialect "Initata," where the girl forces the boy to marry her without the intention of the boy. As the other respondents, they were victims also of physical and psychological violence as defined in R.A. 9262, Section 3.

4. Suspicion and Jealousy

The researcher also found out that one of the factors for the occurrence of battered wives among Meranaw families in Lanao del Sur is suspicion and jealousy. The respondents said that they are having a hard time with their husbands because they are suspicious of them and jealous. Though there is no proof of evidence to be jealousy, their husbands tend to harass their wives.

Table 2: Number of Respondents Affected by the Factors for the Occurrence of Battered Wives Among Meranaw Families in Lanao del Sur

Factors	No. of Respondents
Vices	5
Neglected Obligations of Wife and Husband	5
Arranged and Forced Marriage	3
Suspicion and Jealousy	2
Total	15

C. The Remedies to Address the Issues on Battered Wives among Meranaw Families in Lanao Del Sur

1. Marriage Counselling

Most of the fifteen (15) respondents suggested that marriage counseling should be provided before and during the marriage for the spouses so that they know what they will face during the marriage and what to do if a problem occurs. Marriage counseling also teaches couples how to handle disagreements constructively, avoiding unhealthy patterns like yelling, stonewalling, or avoiding issues altogether.

2. Divorce

Moreover, some of the respondents are likely to initiate a divorce from their husbands because they cannot endure any more the pains and sufferings from their husbands, while some of the respondents had already divorced their spouses and continued their lives as they forgot their dark past with their previous husbands.

3. Ask Permission of the Daughter and Son Before Accepting Marriage

The researcher found out that some of the respondents also suggested that the parents should ask their daughters and sons if they want to accept the marriage so there will be no problems during the marriage. Asking for their permission will also allow them to feel valued, respected, and included in such a major life decision.

4. Getting to know Each Other Before Marriage

They also suggested that they should give the two more time to get to know each other before they accept the marriage so there will be no problems during the marriage. It provides a chance to see how each person communicates, handles conflict, and supports their partner as the respondents said.

5. Remain in Marriage

Furthermore, the other respondents just want to remain in their marriage for the sake of their children and family. And they believe their partner will eventually change, stop the abuse, or return to being the person they were at the start of the relationship.

Table 3: Number of Respondents Agreed by the Remedies to Address the Issues of Battered Wives among Meranaw Families in Lanao Del Sur

Remedies	No. of Respondents
Marriage Counselling	4
Divorce	3
Permission of Daughter and Son Before Accepting Marriage	3
Getting to Know Each Other Before Marriage	2
Remain in Marriage	3
Total	15

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BUREAUCRATIC TRANSPARENCY AND EFFECTIVENESS IN THE IMPLEMENTATION OF SOCIAL SERVICES IN THE BANGSAMORO GOVERNMENT

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Abstract:

Purpose: This study investigates the role of bureaucratic transparency in enhancing the delivery of social services in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) during its critical transition period. It aims to assess how transparency mechanisms influence governance effectiveness and contribute to the realization of moral governance principles in a post-conflict setting.

Methods: The research adopts a literature-based approach to analyze transparency practices in BARMM, focusing on their impact on governance and social service delivery. Key areas of inquiry include event transparency like publication of reports and process transparency like citizen involvement in decision-making. The study identifies existing gaps and evaluates potential solutions, drawing insights from global best practices in governance.

Results: The findings reveal progress in event transparency, such as the publication of financial reports and program updates. However, process transparency remains underdeveloped, limiting citizen engagement and participation in governance. This gap undermines public trust and weakens the accountability of government processes. Furthermore, the uneven implementation of transparency initiatives across ministries results in inefficiencies and inequities in service delivery, particularly in rural and underserved areas. Tools like e-governance platforms and citizen charters are identified as potential mechanisms to address these issues.

Conclusions: For BARMM to achieve effective and equitable governance, it must prioritize strengthening its transparency mechanisms. Recommendations include the standardization of reporting across ministries, the use of digital tools to improve accessibility, and the promotion of participatory governance through public consultations. Addressing these challenges will not only improve service delivery but also rebuild trust in government institutions and ensure alignment with the principles of moral governance. By adopting these measures, BARMM can set a foundation for stable, inclusive, and accountable governance.

Keywords: Bureaucratic Transparency, Public Service Delivery, Effectiveness, Accountability, Moral Governance, Post-Conflict Governance, Social Service Implementation

Introduction

In the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), the transition to self-governance presents an opportunity to establish effective, inclusive, and transparent governance. Transparency, a cornerstone of moral governance, ensures that government actions are visible, accountable, and aligned with public needs. It fosters trust between the

government and its citizens, which is essential for stability in post-conflict regions like BARMM.

Despite progress in providing public access to information, the region faces challenges in embedding transparency into decision-making processes. This lack of "process transparency" restricts meaningful citizen participation in governance, weakening public trust and accountability. Effective governance requires more than publishing reports; it demands that the public actively engage in and influence decisions that affect their lives.

BARMM's unique post-conflict context magnifies the importance of addressing these gaps. Weak institutions, uneven resource distribution, and limited use of modern governance tools hinder the equitable delivery of social services. Lessons from other regions suggest that adopting mechanisms such as e-governance platforms, citizen charters, and participatory approaches can bridge the divide between the government and the governed, ensuring that services are delivered fairly and efficiently.

This paper explores the intersection of bureaucratic transparency and social service delivery in BARMM. It examines existing practices, identifies challenges, and provides actionable recommendations to enhance transparency. By addressing these issues, the region can strengthen its governance framework, rebuild public trust, and work toward a more inclusive and effective system of governance.

Literature Review

Bureaucratic Transparency

Transparency within bureaucracies ensures that government actions and decisions are accessible to citizens. Banks (2020) explains that transparency is both a tool for accountability and a way to build trust. In BARMM, trust between the government and its citizens is critical for stabilizing post-conflict governance. Heald (2006) categorizes transparency into event transparency (focused on specific occurrences) and process transparency (focused on decision-making processes). BARMM currently shows progress in event transparency, such as publishing reports, but struggles with process transparency, as decision-making remains unclear to many citizens. Gabriel (2019) demonstrates how local governments in the Philippines use transparency to strengthen accountability, which can directly guide BARMM's efforts to build an open governance system.

The lack of consistent transparency mechanisms in BARMM weakens public trust and accountability. Transparency tools like publicized decisions, citizen consultations, and regular reports are underutilized. Process transparency, which emphasizes citizen involvement in governance, is essential for moral governance but remains underdeveloped in BARMM. Heald (2006)'s framework highlights the need for BARMM to balance transparency in events and processes to achieve genuine openness.

For BARMM, bureaucratic transparency is a foundational step toward moral governance and equitable service delivery. Efforts should focus on not only publishing reports but also engaging citizens in governance processes. Adopting practices that emphasize both event and process transparency will ensure that citizens are informed and involved, building trust and strengthening accountability in governance.

Importance of Transparency in Governance

Transparency is key to accountability and effective governance. Bovens et al. (2008) argue that transparency allows citizens to evaluate government performance, ensuring decisions align with public needs. In BARMM, where trust is being rebuilt, this alignment is crucial. Reinikka and Svensson (2004) show how campaigns to inform citizens about resource allocations reduce corruption and improve service delivery. Similarly, transparency in BARMM's budget allocations could ensure resources are used effectively. Chinedu (2018) highlights how transparency eliminates inefficiencies in public service delivery, an issue BARMM faces in ensuring equitable access to resources.

The studies illustrate how transparency links directly to governance quality. In BARMM, limited information-sharing hinders public awareness and trust. Citizens cannot evaluate government actions if processes are opaque. For instance, unclear budget allocations create suspicion and reduce public confidence in governance.

BARMM must prioritize transparency to align governance with public needs. Regular publication of budget data, performance metrics, and resource allocation plans can rebuild trust and improve governance quality. Transparent processes ensure that public services are delivered efficiently, reducing opportunities for corruption and waste.

Challenges in Post-Conflict Governance

Post-conflict regions like BARMM face unique governance challenges. The United Nations Department of Economic and Social Affairs (2009) identifies weak institutions and limited resources as key issues. Similarly, Blair and Ammitzboll (2020) explore how governance reforms can strengthen public administration in such settings. BARMM faces these challenges as it transitions to autonomous governance. Boege et al. (2009) highlight the importance of inclusivity in governance, which is vital for addressing BARMM's diverse cultural and social dynamics.

The studies show that BARMM's governance challenges are typical of post-conflict regions. Weak institutional capacity and resource limitations hinder service delivery and transparency. Inclusive governance practices, such as engaging marginalized groups, remain underutilized, reducing the effectiveness of reforms.

BARMM must address institutional weaknesses and resource gaps to build a stable governance framework. Reforms should emphasize inclusivity, ensuring that diverse voices are represented in decision-making. Strengthening institutions and adopting participatory governance models can overcome the challenges of post-conflict governance.

Transparency and Social Service Delivery

Transparency is essential for effective social service delivery. Suharjito and Nugroho (2012) show how e-government initiatives improve accessibility and efficiency in public services. BARMM could benefit from similar tools to streamline services. Calina (2018) highlights the importance of citizen charters in setting service standards, which BARMM could adopt to improve public confidence. The International Foundation for Electoral Systems (2021)

emphasizes that democratic practices, including transparency, are key to improving service delivery outcomes.

The findings suggest that BARMM lacks standardized tools to ensure transparency in service delivery. Digital tools like e-governance platforms and citizen charters can address inefficiencies and ensure citizens have clear expectations of service quality. However, their implementation in BARMM remains limited.

Adopting transparency tools, such as e-government systems and citizen charters, will improve BARMM's service delivery. These mechanisms ensure that services are accessible, timely, and equitable, enhancing public trust and satisfaction.

Transparency in the Bangsamoro Government

The Bangsamoro Transition Authority's (2023) Transparency Report highlights progress and gaps in implementing transparency initiatives in BARMM. While financial reports are published, inconsistencies across ministries weaken overall transparency. The Commission on Audit's (2022) Annual Report identifies gaps in financial accountability, while the Bangsamoro Development Report (2023) emphasizes the need for stronger enforcement of transparency policies.

Transparency efforts in BARMM are hindered by inconsistent implementation and weak enforcement mechanisms. While some ministries publish reports regularly, others lag behind, creating gaps in public trust. Strengthening audit systems and ensuring uniformity in policy enforcement are critical for improving transparency.

For BARMM, achieving consistent transparency across ministries is crucial for building public trust. Uniform enforcement of transparency policies, combined with regular audits and public reporting, will ensure that citizens are informed and government actions are accountable.

Linking Transparency to Effectiveness in BARMM

Transparency directly influences governance effectiveness. The World Bank (2017) highlights how transparency tools in Rwanda improved service delivery. Similarly, The World Bank (2019) emphasizes the connection between transparency mechanisms and governance outcomes. These lessons are highly relevant to BARMM, where gaps in transparency affect service delivery effectiveness.

The studies show that transparency mechanisms must be directly linked to service delivery outcomes. In BARMM, this connection is weakened by inefficiencies in resource allocation and limited citizen engagement. Digital tools and participatory models can address these gaps by ensuring that governance processes are transparent and inclusive.

Strengthening the link between transparency and service delivery is essential for BARMM's governance. By adopting digital tools and participatory governance models, BARMM can improve service delivery outcomes, build public trust, and ensure that governance processes are efficient and equitable.

Understanding what was discovered

Transparency in BARMM's bureaucratic processes has shown some progress but remains inconsistent across ministries. The government has made strides in event transparency, such as publishing financial reports and program updates. However, there is a lack of process transparency, which involves citizen participation in decision-making and understanding governance workflows. Many citizens in BARMM have limited access to government information, particularly in rural areas, weakening trust and accountability. This inconsistency hampers the government's ability to demonstrate its commitment to moral governance and creates a gap between citizens and their leaders.

Transparency is a critical element for fostering accountability and ensuring governance aligns with public needs. Studies demonstrate that sharing information, such as budget allocations and program outcomes, reduces corruption and inefficiencies. In BARMM, where public trust is still being rebuilt after years of conflict, the absence of consistent information-sharing hinders governance quality. Without transparency, citizens cannot assess whether government actions meet their needs, leading to mistrust and disengagement. Transparency mechanisms can help bridge this gap by enabling citizens to evaluate government performance and hold leaders accountable.

BARMM faces numerous challenges typical of post-conflict regions, including weak institutions, resource constraints, and limited inclusivity. These challenges slow down the implementation of reforms and hinder the equitable delivery of public services. Institutions in BARMM are still developing their capacities, and resource limitations further exacerbate inefficiencies. Additionally, the region's diverse cultural and social dynamics make inclusivity a critical factor in governance. If governance does not reflect the needs of marginalized groups, societal tensions can increase, jeopardizing post-conflict stability.

Transparency plays a vital role in ensuring effective social service delivery. It allows citizens to understand what services are available, how resources are allocated, and what standards they can expect. BARMM lacks tools like citizen charters and e-government platforms, which could improve service delivery by making processes more accessible, standardized, and accountable. Transparency can also help ensure that resources are distributed equitably, particularly to underserved rural areas. Without these mechanisms, service delivery remains uneven, with rural areas often receiving fewer benefits than urban centers.

The Bangsamoro Transition Authority's Transparency Report highlights both progress and gaps in implementing transparency initiatives. While some ministries have made efforts to publish reports, inconsistencies across ministries weaken the overall impact of these initiatives. The Commission on Audit's report identifies significant issues in financial accountability, such as incomplete audits and lack of public access to findings. These gaps indicate the need for stronger enforcement of transparency policies and more rigorous accountability mechanisms. Without uniform application of transparency measures, the government risks losing public trust.

Transparency is closely linked to the effectiveness of governance and service delivery. In BARMM, gaps in transparency reduce the efficiency and equity of public services. For example, limited use of digital tools and lack of citizen engagement hinder the government's ability to monitor and evaluate its programs effectively. Global case studies, such as Rwanda's use of e-governance tools, show that transparency initiatives can significantly improve service delivery and governance outcomes. For BARMM, strengthening this link is essential to ensure that governance reforms translate into tangible benefits for its citizens.

Real-world Impact

For governance, improving transparency mechanisms is essential for rebuilding public trust in BARMM. When citizens can access clear and accurate information about government actions, they are more likely to trust their leaders and engage in governance processes. Transparency also reduces opportunities for corruption and inefficiencies, ensuring that government actions align with public needs. For BARMM, this means creating systems that make information widely available and ensuring accountability at all levels of governance.

For social service delivery, transparency can significantly improve the accessibility, timeliness, and equity of social services. In BARMM, where rural areas are often underserved, transparent processes can help ensure fair resource allocation. Tools like citizen charters and publicized service standards can provide clear expectations for service delivery, reducing confusion and mistrust among citizens. Transparent processes also enable communities to monitor service delivery, ensuring that resources are used effectively and reach their intended beneficiaries.

For post-conflict stability, addressing transparency gaps is crucial for stabilizing BARMM's governance. Inclusive governance practices that engage marginalized groups can foster a sense of ownership and trust in government processes. Transparency also ensures that government actions are visible and accountable, reducing the risk of favoritism or bias. In a post-conflict setting like BARMM, these practices are vital for building a stable and cohesive society.

For institutional development, building institutional capacity is necessary to implement and sustain transparency measures in BARMM. This includes recruiting skilled staff, providing training, and investing in infrastructure like digital platforms. Without strong institutions, transparency initiatives risk being inconsistently applied or failing altogether. For BARMM, capacity-building efforts should focus on creating systems that are sustainable and adaptable to the region's unique governance challenges.

What should be done?

Enhance transparency mechanisms. The Bangsamoro Government should standardize the publication of financial reports, program updates, and performance data across all ministries. A centralized online platform should be developed to ensure citizens can access government documents easily, even in rural areas. Additionally, the government should establish clear guidelines for information dissemination to ensure consistency across ministries.

Strengthen public engagement. Public consultations should be conducted in local languages and announced well in advance to encourage higher attendance. The government should also adopt culturally sensitive approaches, such as Shura-style consultations or community forums, to make participation more accessible. Demonstrating how citizen feedback influences decisions will further build trust and encourage sustained engagement.

Improve accountability systems. Regular audits should be mandated for all ministries, and audit findings should be made publicly available. Citizen feedback mechanisms should be enhanced through awareness campaigns that educate the public on how to submit complaints or suggestions. Prompt responses to citizen input will strengthen trust in these mechanisms and ensure they are effective.

Invest in organizational capacity. The Bangsamoro Government must allocate resources to train and recruit skilled staff, particularly in technical areas like IT and auditing. Infrastructure development, such as expanding internet connectivity in rural areas, is also crucial for supporting digital governance tools. Collaborations with international organizations can provide technical expertise and funding to support these initiatives.

Promote equitable service delivery. Priority should be given to funding and resources for underserved rural areas to reduce disparities in access to social services. Transparency tools, such as publicized resource allocation maps, should be used to ensure fair distribution. Monitoring systems should be established to track and evaluate the impact of these investments, ensuring they meet the needs of the most vulnerable communities.

Adopt global best practices. BARMM can learn from global examples, such as Rwanda's use of e-governance tools and Brazil's participatory budgeting model. Adapting these practices to BARMM's cultural and political context can help improve governance and service delivery. Decentralizing decision-making, as seen in Aceh, can also make governance more responsive to local needs.

Raise public awareness. Educational campaigns should be launched to inform citizens about their rights to access information and participate in governance. Partnerships with schools and community organizations can promote civic education, ensuring that future generations understand the importance of transparency and accountability. Engaging local media and social media platforms can further broaden the reach of these campaigns.

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DESIGNING A USER CENTERED GYM BAG: FUNCTIONALITY AND HYGIENE SOLUTIONS FOR ACTIVE INDIVIDUALS

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Abstract: *This study investigates the design and creation of a versatile gym bag, employing Tim Brown's Design Thinking technique to meet the particular requirements of fitness enthusiasts. This study highlights the significance of developing eco-friendly products that resonate with customer values, amid the growing emphasis on sustainability in the fitness industry. Utilizing user-centered research with 20 participants, essential features were discerned, such as hygiene, organization, and functionality. The design incorporates a vented compartment for moist garments, a waterproof shoe pocket, and specific storage for lifting gloves and personal goods, hence improving cleanliness and user experience. Participants' feedback affirmed the efficacy of these treatments, emphasizing the bag's contribution to hygiene and convenience while exercising. Furthermore, utilizing locally woven handloom fabrics as sustainable materials not only reduces environmental effect but also bolsters local weavers, promoting economic development within their communities. This study enhances the promotion of sustainability in product design, demonstrating how intentional design may satisfy customer needs while fulfilling wider social obligations. This research's gym bag exemplifies a prototype for future advancements in the fitness industry, demonstrating the capacity of design thinking to produce functional, visually appealing, and socially responsible products.*

Keywords: *Design Thinking, Human-Centered Design, Product Development, User-Centered Design, Gym Bag, Functionality, Usability, Sustainability*

Introduction

In recent years, the fitness and wellness business has experienced a notable transition towards sustainability, indicating an increasing consciousness of the environmental consequences of customer decisions. This trend has resulted in the rise of sustainable fitness equipment, as consumers aim to improve their health while concurrently safeguarding the environment. Flora Macdonald Johnston (2019) succinctly asserts, "the mindset is, if you are going to care for yourself, why not care for the planet as well?" This ideology emphasizes the necessity of incorporating sustainable techniques into product design, especially for things essential to customers' daily activities, like gym bags.

Effective product design must integrate functionality while profoundly impacting user perception and overall success. The aesthetic allure of items significantly influences consumer responses, requiring designers to emphasize aesthetics in conjunction with functionality. Assessments of a product's sophistication, utility, and societal significance frequently rely on visual indicators linked to perceived characteristics, highlighting the satisfaction of consumer requirements and aspirations. This is particularly relevant in the context of creating a multifunctional gym bag, as the design must satisfy ergonomic and organizational criteria while appealing visually to fitness aficionados. By merging design and functionality, the gym bag

may elevate the user experience while attracting a market that prioritizes both performance and aesthetics.

The use of handloom fabrics as sustainable materials in the manufacture of gym bags presents a great opportunity for eco-friendly design. By procuring these locally woven fabrics, designers can assist loom weavers, fostering the development of their local industries and safeguarding traditional craftsmanship. This method diminishes the ecological impact linked to mass-produced textiles while promoting economic development in communities dependent on handloom weaving.

Design thinking, a methodology developed by IDEO's David Kelley and Tim Brown, is a pragmatic approach to creating innovative solutions. This strategy has become prevalent in product development by integrating human-centered design methodologies into a unified framework. According to Tim Brown (2009), design thinking utilizes a human-centered methodology for innovation that integrates user needs, technology capabilities, and corporate objectives.

This research investigates the design and development of gym backpacks. The aim is to develop creative solutions that address the distinct requirements and constraints encountered by gym attendees, with an emphasis on hygiene. This project aims to reconcile utility and aesthetics through user-centered design principles and thorough market study, ultimately providing items that enhance users' daily activities.

Moreover, the design approach seeks to guarantee sustainability through the establishment of closed-loop product life cycles. This is accomplished by making informed decisions throughout the design phase, taking into account both economic and environmental considerations (Alzaydi, 2024). Successful product design must correspond with consumer requirements, linking functional specifications to product attributes. Selected design components must satisfy pertinent criteria, mitigating restrictions while augmenting both economic and environmental value retention (Geng et al., 2020; Wang & Tseng, 2010).

Methodology

This study adopted a design and development methodology, utilizing Tim Brown's Design Thinking framework as the basis for product creation. Design Thinking is a human-centric methodology that prioritizes comprehending user needs, reinterpreting difficulties, and formulating inventive solutions. The procedure is generally divided into five fundamental stages: empathize, define, ideate, prototype, and test.

Empathize

During the preliminary phase, the research team consulted 20 people, comprising dedicated gym-goers and fitness aficionados, to obtain insights into their requirements, preferences, and issues concerning gym bag design. Through interviews and observations, the researchers discerned essential design issues, including storage capacity, accessibility, durability, and aesthetic appeal. This direct connection enabled the team to get a comprehensive comprehension of consumer experiences and expectations for gym backpacks.

Define

In the define step, the researchers synthesized insights obtained from participants to identify essential difficulties and needs that the new gym bag design must fulfill. This phase concluded with a definitive issue statement highlighting the necessity for a useful, aesthetically pleasing, and durable product that meets the particular requirements of exercise aficionados. Emphasis was placed on attributes that augment convenience, like designated containers for equipment, ergonomic design, and sustainable materials.

Ideate

During the ideation phase, the researchers produced a varied collection of thoughts and prospective design solutions informed by participant comments. Brainstorming meetings generated novel concepts, including the integration of pockets for water bottles, footwear, and personal belongings, alongside the use of eco-friendly handloom materials to promote local artists. Each design choice was rigorously evaluated, concentrating on its effectiveness in meeting the needs outlined in prior rounds.

Prototype

The prototype phase entailed the development of preliminary iterations of the gym bag designs. These prototypes included insights and feedback from participants to deliver concrete representations of the product. Features include padded straps, various compartments, and robust materials were incorporated to improve functionality and comfort. The prototypes were subsequently shown to consumers for review, enabling interaction with the designs and soliciting feedback on usability, visual appeal, and overall functionality.

Test

Ultimately, in the testing phase, the researchers meticulously assessed the gym bag design by integrating supplementary user feedback and executing requisite improvements. This iterative method guaranteed that the final product conformed to the preferences and requirements of the target users. The project sought to create a gym bag that fulfills functional requirements while aligning with consumers' preferences for style, sustainability, and practicality through ongoing design refinement informed by user insights.

Results and Discussion

This project involved the creation of a specific gym backpack utilizing Tim Brown's Design Thinking methodology to meet the distinct requirements of gym enthusiasts. The aim was to design a functional and efficient bag that could adequately hold all necessary items for a workout while ensuring cleanliness and organization. The design process followed the five stages of Design Thinking: empathize, define, ideate, prototype, and test.

The first phase consisted in gathering insights about the specific needs of a gym bag by interviewing a diverse group of gym enthusiasts. Participants stressed many important qualities they were looking for:

a ventilated chamber guaranteeing air circulation and odor control for the storage of old or wet clothing.

a designated section for shoes to keep apart from personal items and clean clothing.

a specific glove and towel storage container that guarantees hygienic standards while nevertheless allowing easy access.

pockets set aside for a phone and wallet, so ensuring safety and security while working out.

The problem statement was refined based on the insights gained to highlight the creation of a gym bag that places an emphasis on cleanliness, organization, and functionality. For reasons of cleanliness, the design should have specific spaces for things like used clothes, shoes, towels, lifting gloves, and small valuables like a phone and wallet. It should also be breathable and antimicrobial.

As part of the ideation phase, researchers held brainstorming sessions to come up with a creative solutions to the problems that gym-goers had:

To improve air circulation and decrease odors, use a breathable section made of mesh or ventilated fabric to store wet or used garments.

Adding a separate shoe pocket with a waterproof compartment can keep items inside the bag dry and clean.

Designing a specialized pouch for lifting gloves and towels to facilitate convenient access while maintaining cleanliness and protection.

Allocating compartments for a wallet and phone to facilitate safety of personal goods during exercise.

The prototype step entailed creating a preliminary version of the gym bag, including the essential elements highlighted during the ideation process. The design had a primary compartment with multiple sub-compartments for used clothing, footwear, towels, lifting gloves, and personal belongings.

A ventilated chamber made of mesh fabric, facilitating airflow for moist garments and inhibiting odor accumulation.

A water-resistant pocket for shoes at the base of the bag, intended to maintain separation and protection for soiled footwear.

A designated pouch for lifting gloves and a towel, facilitating convenient access when required. Pockets include zippers for the wallet and phone, guaranteeing security.

The prototypes were evaluated by gym goers enabling them to offer immediate input on usability and functionality. Participants conveyed contentment with the ventilated compartment, observing that it proficiently reduced scents and maintained the separation of moist garments. The shoe compartment garnered favorable reviews for its waterproof liner, which effectively safeguarded other things in the bag from dirt and moisture contamination.

Users valued the convenient accessibility of the lifting gloves and towel pocket, together with The specialized compartments for the wallet and phone were positively acknowledged, guaranteeing the security of personal belongings during exercise sessions.

Conclusion

This study effectively examined the design and development of a versatile gym bag tailored to the individual needs and preferences of fitness enthusiasts. The research utilized Tim Brown's Design Thinking methodology, highlighting a user-centered approach to ensure the final product meets the practical needs and aesthetic preferences of its target consumers.

The results indicated that fitness enthusiasts emphasize hygiene, orderliness, and practicality in their gym bags. Essential attributes, such as a ventilated compartment for wet garments, a waterproof shoe pocket, and specific areas for lifting gloves and towels, markedly improve the user experience by fostering hygiene and ease. The inclusion of designated containers for personal goods such as wallets and phones enhances security during exercises, answering common customer concerns.

Participants' feedback during the testing phase validated the efficacy of the design solutions, with users valuing the deliberate incorporation of features focused on odor control, moisture management, and accessibility. The favorable response to the prototypes highlights the potential for these innovations to appeal to the fitness sector, especially as customers increasingly desire items that improve their training experiences while embodying sustainability and utility.

The research emphasized the significance of utilizing sustainable materials, such as locally woven handloom fabrics, for the production of gym bags. This method not only reduces environmental effects but also bolsters local artisans, fostering the development of their industries. This study emphasizes a dedication to eco-friendly design, addressing consumer needs and society obligations.

In summary, the creation of this gym bag exemplifies a prototype for forthcoming product improvements in the fitness sector, demonstrating the effective application of design thinking to provide solutions that are practical, visually appealing, and socially responsible.

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THE IMPACT OF EDUCATIONAL MANAGEMENT ON EDUCATORS' PERFORMANCE IN ACADEMIC INSTITUTIONS

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Abstract: *In recent years, educational management has become a key focus in primary, secondary and secondary and higher education and a prominent topic in academia. This study examines the impact of educational management on educator's job performance in academic institutions, focusing on three aspects: educational plan management, educational operation management, and educational quality management. A literature review identified a research gap in exploring the correlation between these aspects of educational management and educators' job performance. This study employed quantitative research with 200 educators from various academic institutions as respondents. Questionnaires and scales for the four variables were used, and a pilot study preceded the main research. Data analysis, including descriptive and regression analysis, revealed that educational plan management, operation management, and quality management significantly affect educators' job performance. Based on the collegial model, the study provides recommendations for improving these aspects of educational management and discusses directions for future research.*

Keywords: *Educational Management, Performance Outcomes, Academic Institutions, Quality Management*

Background of Study

The leader of an academic institution, whether a primary, secondary, or higher education setting, plays a pivotal role in enduring its growth and progress. There has been increasing research focused on the training and development of academic leaders, their management roles, and the challenges they face in these positions. Yang and Catherine (2009) emphasize the importance of enhancing leaders' preparation and professional growth programs to equip them with the necessary leadership and interpersonal skills to adapt to the ever-evolving societal and economic demand placed on academic institutions.

Academic leaders must possess the skills and knowledge to effectively oversee and manage their institutions. To implement effective training and professional development programs for academic leaders, it is essential to first identify the barriers and limitations they encounter. This research aims to explore the context in which these leaders operate and manage their duties, contributing to the broader understanding of educational management. Over the past few decades, educational management has garnered significant scholarly attention worldwide. The concept has evolved beyond traditional administration to incorporate innovative strategies tailored to diverse academic environments.

The rise of management theories in the business sector profoundly influenced educational management practices. For instance, unlike in the decentralized education system, many

academics leaders operate under state-mandated structures that align their management practices with national policies. These frameworks often require adaptation to fit the unique cultural and contextual demands of different educational settings. Educational management models developed in certain regions, particularly in Western context, may not fully align with the complexities of diverse academic institutions. As noted by Chen and Guo (2020), applying universal management frameworks without accounting for cultural on contextual factors often oversimplifies the realities faced by leaders.

Nevertheless, the rapid development of educational research globally helped bridged knowledge gaps, particularly in developing countries. Educational management has become a critical area of study, with researchers exploring its effects on various types of academic institutions, including schools, colleges and universities. The relationship between societal and cultural factors and academic administration remains a focal point for identifying strategies to enhance institutional effectiveness (Meyer et al., 2022).

Problem Statement

Effective educational management has been widely acknowledged as crucial to the success of academic institutions, benefiting both educators and learners. As interest in educational management continues to grow, it is essential to understand how management decisions influence educators' performance and teaching practices (Syahril & Hadyanto, 2018). Management typically involves processes that directly teach activities, suggesting that adjustments in these processes can significantly affect educators' job performance (Zheng, 2019).

This study aims to investigate how educational management practices influence educators' performance within academic institutions. By exploring this relationship, the research seeks to contribute to teaching outcomes and institutional success.

Research Objective

The goal of this study is:

- i. To analyze how do educational management impacts on educators' job performance in academic institutions.

Specific research objectives:

- i. To analyze the impact of educational planning management on educators' job performance in academic institutions.
- ii. To analyze the impact of educational operational management on educators' job performance in academic institutions.
- iii. To analyze the impact of educational quality management on educators' job performance in academic institutions.

Literature Review

Educators' Job Performance

Early studies of college and university faculty performance focused primarily on performance evaluation's guiding and motivational function. By way of illustration, Lazear (2021), drawing

on multitasking agent theory, examined the effectiveness of the remuneration system for professors at research universities from a "dynamic incentive" advantage (i.e., the money professors earn is dependent on how well their students do). According to Zhang (2020), the goal of developing performance evaluation indicators for educators is to "provide teachers with clear guidance in response to the requirements of the school and the country; assist educators in integrating their self-conscious expectations with the overarching goals of the school or the nation, and motivate educators to exert greater effort and have more positive specific behaviors in the direction of the objectives to be accomplished by the school and the nation.

As the notion of job performance has evolved, a behavior and results-oriented job performance perspective has emerged from job performance research conducted in the field of education. As an illustration, Xiaofu and Qiwen (2019) argued that teachers' work performance is defined by the instructors' observable and empirically validated behavior and results in the classroom, as it relates to their personal and the school's organizational goals. According to Hu et al. (2018), there are three primary components to the assessment index system for teachers: political theory, classroom performance, and research productivity.

The Collegial Model of Educational Management

Collegial models assume that all or most members of an organization have a unified understanding of its goals and that this shared knowledge may be used to determine and conceptualize policies and guide decision-making through discussions, agreements, and general understanding (Postholm, 2018). The widespread adoption, growth, and interest in educational management models can be traced back to Peterson (2007) formulation of the idea and its subsequent application to the management of US colleges.

For higher education institutions, the collegial model has proven to be the most well-liked form of management thus far. The collegial model's premise of shared decision-making is widely used throughout the academic world, including in the presidential search (Keyt et al., 2020). This is because the collegial model best reflects the need for cooperative participation and strategic planning based on institutional priorities, making it the most suitable model for university-wide decision-making. For instance, it is suggested that the director's board and teachers work together to choose key leaders, with all interested parties' input.

Most research on educational management examines the field to determine whether it has any bearing on teachers' productivity on the job (Lazear, 2021). Still, this approach opens the possibility that other, more specific aspects of educational management, such as the management of educational plans, educational operations, and educational quality, may play a larger role. According to Zheng (2019), there are three distinct types of management material in education, and each may have a separate impact on educators' productivity on the job. However, academics haven't focused on any of the three signs, leaving significant holes in our knowledge. This research aims to address these many knowledge gaps by analyzing the effects of the three pieces of educational management content on individual educators' productivity in the classroom.

Conceptual Framework

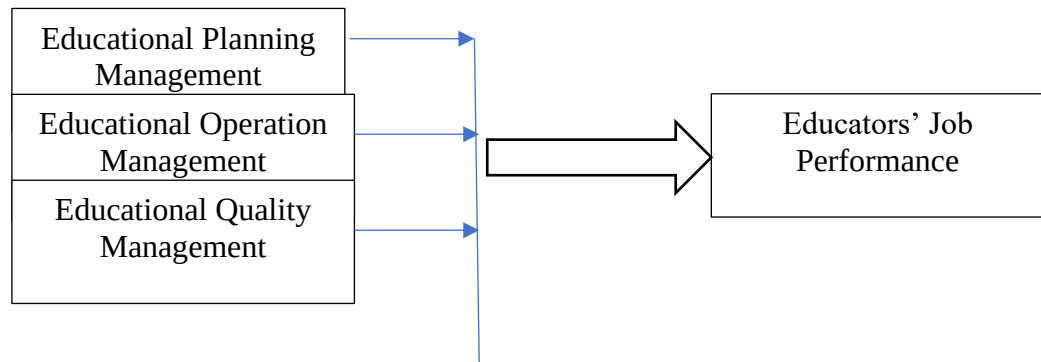


Figure 1: Conceptual Framework

Based on the conceptual framework, this research refers to Yang and Chang (2023), which studied the teaching competencies and job performances, in which he constructed a research model with teachers' competencies as an independent variable, the organizational support from schools as the intermediate, the teachers' job performance as dependent Variable, to construct a conceptual model. The second reference comes from Wang (2024), which took students' angles to investigate the satisfaction degree of master's students in educational management. Based on these studies, the author proposes the conceptual model, with the three items of educational management as the independent variables and educators' job performance as the dependent variable, presented in Figure 1. Wang (2024) is the second source; it looked at educational management from the student's perspective to determine how content they were with their master's programs. Based on these findings, the author presents the conceptual model shown in Figure 1, which positions the three components of management education as independent factors and teacher effectiveness as a dependent variable. The conceptual framework was built using a methodological approach with teachers' abilities as the independent variable, the management commitment from schools as the intervening Variable, and the teachers' job performance as the dependent variable (Yang & Chang, 2023).

In this study, the term educator is used instead of teacher to encompass a broader range of professionals involved in education. This terminology ensures the research findings are inclusive and applicable to various roles within academic institutions.

Research Methodology

A quantitative approach is used to study the correlation between educational management and educator's performance. The major purpose of quantitative research is to explore the definite correlation among different factors (Goertzen, 2017); therefore, quantitative research presents to be the suitable for this research.

Based on the minimum requirement of reliable questionnaire research (Krosnick, 2018), the author sets the research population as 200. An approach based on random sampling is adopted. Random sampling, also known as nonprobability sampling, does not take the likelihood of the sample being selected into account (Acharya et al., 2020). A convenience sample is taken. Convenience sampling refers to selecting study participants based on how easy they are to approach and how similar they are to the researcher's ideal sample. To rephrase, a convenient sample is drawn from an easily accessible population segment. Convenience sampling helped researchers find and categorize the first set of study participants. The biggest reason for

selecting random sampling is because that random sample meets the research need that the author aims to survey on the educators in different departments of academic institutions, and random sample is sufficient to realize the research goal.

Qualtrics, an online platform, was used to release the survey. The author used this online tool to formulate research questions, keep track of responses, and do preliminary analyses of the collected data. The built-in Qualtrics questionnaire was sent to the initial meaningful sample of educators Google Form. This survey would be completed by instructors online using their computers or mobile devices and then shared with their colleagues. A total of 200 questions were released in this way. All the teachers have read the ethical information before doing the survey. After retrieving the data, the author relied on the online platform to arrange the data and prepared for the next step of data analysis.

There are 4 variables of the research, which are 3 independent variables of educational plan management, educational operation management and educational quality management, and dependent variable of job performance of teachers. Therefore, the questionnaire consists of 5 parts, with the first part of demographic information, and the rest 4 parts as the questions for 4 variables respectively. For the design of questions of each variable, the author has referred to some mature scales from published literature. Among them, the questions of 3 independent variables are adopted from Wang (2023), including the educational plan management, educational operation management and educational quality management. The questions of job performance are adopted from Yang and Chang (2023). The constitution of questionnaire is listed in the following:

Table 1: Questionnaire Design

Items	Number of Questions	Sources
Part I Personal Information	4	Not applicable
Part II Educational planning management	7	Wang (2024)
Part III Educational operation management	11	Wang (2024)
Part IV Educational quality management	7	Wang (2024)
Part V Job performance of educators	10	Yang and Chang (2018)

Research Finding

This research takes the impact of educational management on educators' job performance as the research topic, concerning whether the education management work in the academic institutions will influence educators' job performance. Taking of educators of academic institutions as the subject, three variables related to educational management are selected: educational plan management, educational, operational management and educational quality management, as well as another variable of educators' job performance. Then three hypotheses were proposed and tested.

Hypothesis 1: Educational plan management is positively correlated with educators' job performance.

Data shows the value of sig. Of beta coefficient is 0.032, smaller than 0.05, which means that there exists a positive correlation between the variable of "educational plan management" and "educators' job performance". Therefore, hypothesis 1 is accepted.

Hypothesis 2: Educational operation management is positively correlated with educators' job performance.

The value of sig. of this variable is 0.020 in the calculation, smaller than 0.5, thus meeting the criteria and indicating that educational operation management positively correlates with job performance.

Hypothesis 3: it shows educational quality management is positively correlated with educators' job performance.

The value of sig. of this variable is 0.36, smaller than 0.5, which means that hypothesis 3 is also accepted.

The Suitability of Collegial Model for Research Results

This research selects the collegial model (Bush, 2007) as the theoretical basis. The author first examines the suitability of this model for the research results. As the research results show that the management of educational plans, operation and quality all have a positive impact on the job performance of educators, for which the author holds that collegial model presents to be a suitable educational model.

One of the important attributes of this model is that the decision-making process will be a consensus of a group, and the group consists of both educators and professionals. As the research results show that education plan management, operation management and quality management all relate to the job performance of educators.

Recommendation to Educational Management

Based on the collegial model, some suggestions to educational management work will be made.

- i) Educational plan management
The recommendation for this part is to let more educators participate in the design of the educational plan in order to improve educators' job performance. Compared to top management department, educators are more familiar with the actual teaching and students' learning schedule, and fully understand the latest trend in educational development, so their participation in plan management is better.
- ii) Educational operation management
The work of educational operation management is mostly related to educational facilities. Similarly, academic institutions should give more rights to educators to determine the facilities and equipment. School management should give full play to the needs of teachers when equipping the facilities. And the school should reasonably allocate school resources to avoid the waste of resources and facilities.
- iii) Educational quality management
Educational quality management mainly covers the assessment work of educators and students. In this aspect, it is recommended that assessment should be determined by educators themselves. The academic institutions can let the educators to jointly develop the ways for assessment, such as the questionnaire

for assessment of teachers. For assessment of students, the academic institutions should encourage educators to design innovative forms to assess students' learning outcomes, such as group cooperation presentation, activities playing and so on.

Contribution

For the first finding, there is no similar research conducted to examine the correlation between the educational plan and educators' job performance, the researcher tries to find some interpretation. The researcher holds that a possible mechanism may be like this: that the work of educational plan management covers the items of plan design, plan implementation and feedback of the plan; while these educational plans restrict the teaching activities, and then may, to some extents hinder the educators' autonomy, thus influencing on their job performance; some research results can justify this aspect: for example, Johari et al. (2018) research showed that teachers' autonomy is positively correlated with work performance; Khoshnaw and Alavi (2020) conducted critical literature review and found that vocational autonomy of teachers is positively correlated with their job performance.

For the second research finding, viewing the items of this variable, it can be found that some are related to the teaching environment and conditions, such as the teaching hours, curriculum design, class facilities, and so forth. Similar research results can also be found; for example, Erlangga et al. (2021) conducted research on teachers and found that the work conditions are one of the influences of teachers' job performance and job satisfaction.

For the third research finding, this group of items are mainly related to the assessment and feedback of educators. A lot of research shows that assessment contents and forms have a significant impact on employees' job performance, distributed in business enterprises (Fernández-del-Río et al., 2019), and governmental sectors (Al-Jedaia, Y., & Mehrez, 2020) and schools (Kagama & Irungu, 2018). So, this conclusion is consistent with these studies.

In summary, for the research gaps of lack of literature conducting empirical studies on exploring the influence of school management on teachers' work performance, this research by empirical studies verifies the significant correlation between the school management and teachers' job performance, which realizes the shortening of the research gap.

Future Research

Educational management is a research topic with growing concern, as a subject crossing disciplines of management and education. Therefore, the impact of educational management on various educational activities, such as teachers' job performance, will still be an important topic. Future researchers should refine the impact range, for example, to clarify the specific impact on different disciplines, different types of classes, and different outcomes of students' learning. And more importantly, useful approaches to deal with the negative impact should be explored and discussed. Future studies can also extend to adjusting educational management based on its beneficial influence on teachers and other educational activities.

Conclusion

Research findings show that all three hypotheses have been accepted, which means that educational plan management, educational operation management and educational quality

management all impact teachers' job performance. As a result, the recommendation is made from these three aspects respectively. Future researchers should refine the impact range, and useful approaches to deal with the negative impact should be explored and discussed.

The research results show that all three hypotheses have been accepted. Recommendations are made for improving educational plan management, educational, operational management and educational quality management, respectively. Future research is discussed with more details on the specific impact of educational management on educational activities.

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INSTITUTIONALIZING THE SHARI'AH SUPERVISORY BOARD AT MINDANAO STATE UNIVERSITY, PHILIPPINES: A STRATEGIC MODEL TO SUPPORT ISLAMIC BANKING COMPLIANCE UNDER REPUBLIC ACT NO. 11439

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Abstract: *This study aimed to institutionalize a Shari'ah Supervisory Board at Mindanao State University (MSU) to support the economic progress of BARMM and enhance compliance with Republic Act No. 11439, thereby strengthening Islamic banking and finance in the Philippines. The research utilized a mixed-method approach, combining qualitative data from structured interviews and quantitative data from surveys conducted with stakeholders, including Islamic banking and finance practitioners, academics, and policymakers, to thoroughly examine feasibility and implementation strategies. The findings showed that establishing a Shari'ah Supervisory Board at MSU addressed gaps in Islamic banking and finance regulation, improved Shari'ah compliance mechanisms, and promoted collaboration between academia and the financial sector, contributing to economic development in BARMM. The scope of the study was limited to the BARMM region, with challenges such as regulatory constraints, limited resources, and varying levels of stakeholder engagement potentially affecting the broader application of the proposed framework in other regions. This research offered a strategic model for integrating academic institutions with the financial sector to institutionalize Shari'ah governance, contributing to policy development, capacity-building, and the advancement of Islamic banking and finance practices in the Philippines.*

Keywords: *Shari'ah Supervisory Board, Mindanao State University, Islamic Banking, Republic Act No. 11439, BARMM, Shari'ah Governance, Economic Development*

Introduction

Islamic banking and finance are critical for economic development in regions with significant Muslim populations, such as the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Recognizing the unique requirements of Islamic banking under Shari'ah law, I chose this study to address the pressing need for an institutional framework supporting compliance and governance in this sector. Mindanao State University (MSU), as an academic institution, holds a pivotal position in fostering economic and social transformation in BARMM. Motivated by the opportunity to bridge the gap between academia and the financial sector, I sought to explore how MSU could play a strategic role in enhancing Shari'ah compliance in alignment with Republic Act No. 11439, which provides the legal framework for Islamic banking in the Philippines. This study's motivation stems from the desire to address the lack of institutional support for Shari'ah governance, which is vital for building trust, ensuring compliance, and promoting the growth of the Islamic financial industry in BARMM.

The primary problem addressed by this study was the absence of a robust Shari'ah governance framework within BARMM, particularly in the context of Islamic banking. Despite the enactment of Republic Act No. 11439, significant gaps persisted in implementing Shari'ah-

compliant practices. Previous studies, such as Ahmad and Rafique (2020), have emphasized the necessity of institutionalizing Shari'ah Supervisory Boards to ensure compliance and trust in Islamic finance. Furthermore, Barizah and Ahmad (2017) highlighted the role of academic institutions in advancing Shari'ah governance. In the BARMM context, the lack of a localized framework addressing these gaps hindered the effective implementation of Islamic banking principles. By establishing a Shari'ah Supervisory Board at MSU, this research aimed to address these regulatory challenges and promote a sustainable model for Shari'ah governance tailored to BARMM's unique socio-economic and cultural landscape.

This study contributes to the body of knowledge by proposing a strategic model for integrating academic institutions into the Islamic banking framework. By leveraging MSU's position as a leading educational institution in BARMM, the study offers a novel approach to institutionalizing Shari'ah compliance. Previous literature, such as Usmani (2019), underscored the importance of academic institutions in capacity-building and research for Shari'ah governance. Additionally, Hasan and Haron (2021) emphasized the necessity of collaboration between academia and the financial sector to address the evolving needs of Islamic finance. This research filled a critical gap by demonstrating how MSU could serve as a hub for Shari'ah governance, fostering collaboration, enhancing regulatory compliance, and contributing to economic development in BARMM. The proposed model also provided insights into addressing barriers such as resource constraints and varying levels of stakeholder engagement.

The purpose of this study was to institutionalize a Shari'ah Supervisory Board at MSU to enhance compliance with Republic Act No. 11439 and support the development of Islamic banking in BARMM. By employing a mixed-methods approach, this research aimed to develop a feasible and sustainable framework that aligned with the socio-economic goals of BARMM. The study also sought to promote collaboration between stakeholders, including policymakers, academics, and financial practitioners, to address regulatory gaps and advance Shari'ah-compliant practices. By aligning with BARMM's unique socio-cultural context, the study aimed to contribute to policy development, capacity-building, and the broader advancement of Islamic banking and finance in the Philippines. This research aspired to create a scalable model that could be replicated in other regions, fostering economic growth and financial inclusion for the Muslim population.

Research Methodology

Introduction

This study employed a mixed-methods research approach to explore the feasibility and strategic implementation of a Shari'ah Supervisory Board at Mindanao State University (MSU). The chosen methodology was particularly relevant given the study's focus on both quantitative data to measure stakeholder perspectives and qualitative data to provide in-depth insights into regulatory and institutional challenges. By integrating surveys and structured interviews, the mixed-methods approach ensured a comprehensive analysis of the research problem, addressing the multi-dimensional aspects of Shari'ah compliance within Islamic banking under Republic Act No. 11439. This methodological framework was justified due to its capacity to capture the nuanced interplay between academic institutions, financial governance, and socio-economic development in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM).

Research Design

The study was designed as a mixed-methods investigation, combining quantitative and qualitative approaches to obtain a holistic understanding of the subject. The framework involved a sequential explanatory design, where quantitative data were collected and analyzed first, followed by qualitative data to provide deeper context and interpretation. This design enabled the integration of statistical evidence with stakeholder narratives, fostering a robust exploration of the institutional gaps in Shari'ah governance. The study's structure was anchored in descriptive research principles, focusing on capturing current practices, perceptions, and challenges related to Shari'ah compliance within MSU and BARMM's Islamic banking sector.

Research Approach

A descriptive approach was adopted to provide a detailed account of the phenomena under investigation. This approach was deemed appropriate as it facilitated an in-depth examination of the current state of Shari'ah governance in BARMM and the potential role of MSU in addressing gaps. The descriptive method also allowed the research to systematically document the perspectives of key stakeholders, including policymakers, academics, and practitioners, ensuring a comprehensive understanding of the challenges and opportunities in institutionalizing a Shari'ah Supervisory Board.

Respondents and Sampling

The study targeted 300 respondents, comprising Muslim employees at MSU, who were purposively selected to ensure their relevance to the research objectives. The study population included individuals with expertise or experience in Islamic banking, finance, and governance. Purposive sampling was utilized to focus on stakeholders who could provide valuable insights into the feasibility and implementation of a Shari'ah Supervisory Board. The sample size was determined based on the need to achieve data saturation while maintaining statistical reliability and validity. This sampling strategy ensured the inclusion of diverse perspectives, which were critical for addressing the study's objectives.

Data Collection Methods

Primary data were collected using a combination of surveys and structured interviews. The survey instrument consisted of a detailed questionnaire designed to capture quantitative data on stakeholder perceptions, attitudes, and expectations regarding Shari'ah compliance and governance. The questionnaire included both closed-ended and Likert-scale questions to facilitate statistical analysis. Structured interviews were conducted to gather qualitative insights, enabling respondents to elaborate on their experiences, challenges, and recommendations. The data collection process was conducted both online and offline to ensure inclusivity and accessibility for all participants.

Data Analysis

The data analysis process involved both statistical and thematic methods. Quantitative data from the surveys were analyzed using descriptive and inferential statistical techniques, including frequency distribution, mean scores, and regression analysis. These methods allowed the research to identify key trends, relationships, and patterns in stakeholder responses.

Qualitative data from interviews were analyzed thematically, focusing on identifying recurring themes, insights, and narratives related to the institutionalization of Shari'ah governance. The combination of these analytical methods ensured a comprehensive interpretation of the data, aligning with the study's mixed-methods framework.

Ethical Considerations

The study adhered to strict ethical guidelines to ensure the protection of participants' rights and welfare. Prior to data collection, informed consent was obtained from all respondents, detailing the study's objectives, procedures, and confidentiality measures. Anonymity was maintained by assigning unique identifiers to each participant, and all data were stored securely to prevent unauthorized access. The research protocol was reviewed and approved by an ethical review board to ensure compliance with ethical standards. Participants were also given the option to withdraw from the study at any time without penalty.

Limitations

While the study provided valuable insights, several limitations were acknowledged. These included potential biases arising from the purposive sampling method, which may not fully represent the broader population. Additionally, resource constraints and varying levels of stakeholder engagement posed challenges to data collection and analysis. The study's focus on MSU and BARMM limited the generalizability of the findings to other regions. Despite these constraints, the research findings were deemed reliable and provided a solid foundation for future studies on Shari'ah governance in the Philippines.

Description of Procedure

The selected mixed-methods approach was deemed appropriate for addressing the study's objectives due to its ability to integrate quantitative and qualitative data. This methodology enabled a comprehensive exploration of both measurable outcomes and contextual factors influencing Shari'ah compliance. The combination of surveys and interviews provided a balanced perspective, capturing stakeholder perceptions while allowing for in-depth analysis of underlying challenges and opportunities. By aligning the research methods with the study's objectives, the methodology ensured a robust and holistic investigation, contributing to the advancement of Islamic banking and governance in BARMM and beyond.

Results and Discussion

1. Feasibility of Establishing a Shari'ah Supervisory Board at Mindanao State University to Enhance Shari'ah Compliance in Islamic Banking under Republic Act No. 11439

The feasibility of establishing a Shari'ah Supervisory Board (SSB) at Mindanao State University (MSU) plays a pivotal role in enhancing compliance with Islamic banking principles as stipulated by Republic Act No. 11439. This legislation provides the legal framework for the operation of Islamic banks in the Philippines and mandates adherence to Shari'ah principles. However, compliance challenges arise due to a lack of institutional structures and governance mechanisms specific to the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). MSU, as a leading academic institution in BARMM, is strategically positioned to address this gap by fostering Shari'ah-compliant governance and contributing to the socio-

economic advancement of the region. The institutionalizing an SSB at MSU by examining regulatory, institutional, and operational factors. The discussion incorporates stakeholder perspectives, insights from relevant research, and analysis of the potential impact on Islamic banking in BARMM.

Feasibility from a Regulatory Perspective

The establishment of an SSB aligns with the provisions of Republic Act No. 11439, which requires that Islamic financial institutions operate under Shari'ah-compliant principles (Central Bank of the Philippines, 2020). However, the law lacks detailed guidelines for operationalizing SSBs within academic institutions, creating a regulatory gap. This study revealed that MSU could address this gap by collaborating with policymakers and financial regulators to develop a localized framework for Shari'ah governance. Stakeholders highlighted the need for MSU to engage with the Bangsamoro Transition Authority (BTA) and the Bangko Sentral ng Pilipinas (BSP) to ensure that the SSB operates within the legal and regulatory parameters specific to BARMM.

Research by Ahmad and Rafique (2020) emphasized the importance of embedding Shari'ah compliance mechanisms within academic institutions to align them with national and regional legal frameworks. By institutionalizing an SSB, MSU would not only enhance compliance but also set a precedent for integrating governance structures into higher education institutions.

Institutional Readiness and Capacity

MSU's institutional readiness was a critical factor in assessing feasibility. The study found that MSU possesses the necessary academic resources, such as faculty expertise in Islamic finance and law, to support the establishment of an SSB. Additionally, MSU's reputation as a leading institution in BARMM positions it as a credible entity to oversee Shari'ah compliance. However, challenges such as limited financial resources and the need for capacity-building programs were identified. Addressing these challenges would require strategic partnerships with Islamic financial institutions, government agencies, and international organizations.

Research by Barizah and Ahmad (2017) highlighted the role of academic institutions in fostering capacity-building initiatives for Shari'ah governance. The authors argued that collaboration between universities and the financial sector is essential for developing institutional expertise and resources. For MSU, such partnerships could provide the financial and technical support needed to establish and sustain an SSB.

Stakeholder Support and Engagement

The success of an SSB depends on the support and engagement of key stakeholders, including policymakers, financial institutions, and the local community. Survey data indicated strong support among MSU's Muslim employees and the broader BARMM community for institutionalizing Shari'ah governance. Respondents emphasized the importance of MSU's role in promoting ethical and Shari'ah-compliant financial practices. However, varying levels of awareness and understanding of Islamic banking principles among stakeholders were noted as potential barriers.

Hasan and Haron (2021) emphasized that stakeholder engagement is crucial for the successful implementation of Shari'ah governance structures. Their study underscored the need for

inclusive dialogue and capacity-building programs to address knowledge gaps and foster collaboration. For MSU, this entails conducting awareness campaigns and stakeholder consultations to build consensus and ensure active participation in the SSB initiative.

Operational Feasibility and Implementation Strategies

Operational feasibility was assessed by examining the logistical and administrative requirements for establishing an SSB at MSU. Key considerations included defining the SSB's organizational structure, delineating roles and responsibilities, and ensuring alignment with MSU's academic and administrative framework. The study proposed a phased implementation approach, starting with the formation of a core committee to develop policies and procedures, followed by the recruitment and training of Shari'ah scholars and financial experts.

Usmani (2019) highlighted the importance of clear governance structures and operational protocols in ensuring the effectiveness of SSBs. Drawing on this research, the study recommended adopting best practices from established SSBs in other Islamic countries while tailoring the model to BARMM's unique socio-cultural context.

Socio-Economic Impact on BARMM

The institutionalization of an SSB at MSU has significant implications for the socio-economic development of BARMM. By enhancing Shari'ah compliance, the SSB would build trust among Muslim consumers and investors, thereby fostering financial inclusion and economic growth. Additionally, the collaboration between MSU and the financial sector would create opportunities for research, innovation, and capacity-building in Islamic finance. The study also highlighted the potential for the SSB to serve as a model for other academic institutions in BARMM, promoting regional development and sustainability.

The feasibility of establishing a Shari'ah Supervisory Board at Mindanao State University is supported by regulatory alignment, institutional capacity, stakeholder support, and operational viability. By addressing the identified challenges and leveraging strategic partnerships, MSU can play a pivotal role in enhancing Shari'ah compliance and advancing Islamic banking in BARMM. The findings underscore the importance of integrating academic institutions into the broader framework of Shari'ah governance to achieve sustainable socio-economic development.

2. Develop a Strategic Model that Integrates Academic Institutions with the Financial Sector to Address Regulatory and Governance Challenges in Islamic Banking within

BARMM

The integration of academic institutions with the financial sector is essential for addressing the regulatory and governance challenges faced by Islamic banking in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Mindanao State University (MSU), as the region's leading academic institution, is uniquely positioned to bridge the gap between academia and the financial industry. Islamic banking, governed by Shari'ah principles, requires stringent compliance mechanisms to build trust and credibility among stakeholders. However, regulatory gaps, insufficient governance frameworks, and a lack of collaboration between key sectors hinder the growth of Islamic banking in BARMM.

A strategic model for integrating MSU with the financial sector, leveraging its academic resources, research capabilities, and community engagement to address these challenges. The discussion is informed by relevant research, stakeholder insights, and analysis of regional socio-economic dynamics.

Framework for Integration in Governance

The proposed strategic model is based on the collaboration between MSU and the financial sector, focusing on three core components: governance, capacity-building, and policy development. Governance is central to the model, emphasizing the establishment of a Shari'ah Supervisory Board (SSB) at MSU to oversee Islamic banking operations. The SSB would provide guidance on Shari'ah compliance, ensuring that financial institutions adhere to Islamic principles. This aligns with Hasan and Haron's (2021) assertion that academic institutions can serve as credible authorities in Shari'ah governance due to their research expertise and access to scholars.

The study proposed a multi-stakeholder approach to governance, involving representatives from MSU, financial institutions, regulators, and the community. This inclusive framework ensures that governance mechanisms are transparent, accountable, and reflective of BARMM's socio-cultural context.

Capacity-Building

Capacity-building initiatives are essential for equipping stakeholders with the knowledge and skills required for effective Shari'ah governance. MSU can play a pivotal role in this area by offering training programs, workshops, and certifications in Islamic finance. Barizah and Ahmad (2017) highlighted the importance of academic institutions in developing human capital for Islamic banking, particularly in regions where expertise is limited. The study recommended the establishment of an Islamic Finance Center at MSU to serve as a hub for capacity-building activities. The center would collaborate with financial institutions, regulatory bodies, and international organizations to deliver targeted training programs that address the specific needs of BARMM.

Policy Development

Policy development is another critical component of the strategic model. MSU can contribute to this area by conducting research on best practices in Islamic banking and Shari'ah governance, generating evidence-based recommendations for policymakers. This aligns with Ahmad and Rafique's (2020) finding that academic institutions play a vital role in informing policy through research and advocacy. The study suggested that MSU establish a Policy Research Unit dedicated to Islamic banking and finance. This unit would collaborate with the Bangsamoro Transition Authority (BTA), the Bangko Sentral ng Pilipinas (BSP), and other stakeholders to develop policies that address regulatory gaps and promote Shari'ah compliance in BARMM.

Addressing Regulatory Challenges

The integration of academic institutions with the financial sector offers a sustainable solution to the regulatory challenges faced by Islamic banking in BARMM. One of the primary

challenges identified in the study was the lack of clear guidelines for Shari'ah compliance under Republic Act No. 11439. MSU's role in this context involves developing localized guidelines and frameworks that align with the unique socio-cultural and economic conditions of BARMM. The study found that stakeholder engagement is crucial for addressing regulatory challenges. By involving policymakers, financial institutions, and the community in the development process, MSU can ensure that the proposed guidelines are practical, inclusive, and aligned with the region's needs. Usmani (2019) emphasized the importance of collaborative approaches to regulatory reform, highlighting the role of academic institutions in facilitating dialogue and consensus-building.

Enhancing Governance in Islamic Banking

Effective governance mechanisms are essential for ensuring the credibility and sustainability of Islamic banking in BARMM. The proposed strategic model emphasizes the establishment of governance structures that are both robust and adaptable. One of the key governance challenges identified in the study was the lack of trained Shari'ah scholars and financial experts in BARMM. To address this, MSU can leverage its academic resources to develop certification programs and academic curricula focused on Islamic finance. This aligns with Hasan and Haron's (2021) recommendation that academic institutions invest in specialized education to build a pipeline of qualified professionals for the Islamic banking sector. The study also highlighted the importance of transparency and accountability in governance. By adopting best practices from other Islamic countries, MSU can develop governance protocols that enhance trust and confidence among stakeholders.

Socio-Economic Impact of the Strategic Model

The implementation of the strategic model has significant implications for the socio-economic development of BARMM. By integrating academic institutions with the financial sector, the model promotes financial inclusion, economic growth, and community empowerment. The study found that the proposed model could increase access to Shari'ah-compliant financial services in BARMM, particularly for underserved populations. This aligns with Ahmad and Rafique's (2020) finding that inclusive financial practices are essential for achieving socio-economic development in predominantly Muslim regions. Additionally, the collaboration between MSU and the financial sector creates opportunities for research, innovation, and capacity-building, contributing to the overall development of the Islamic banking ecosystem in BARMM.

The development of a strategic model that integrates academic institutions with the financial sector is essential for addressing the regulatory and governance challenges faced by Islamic banking in BARMM. By leveraging MSU's resources and expertise, the proposed model enhances governance, builds capacity, and informs policy development, contributing to the growth and sustainability of Islamic banking in the region.

3. The Potential Impact of Institutionalizing a Shari'ah Supervisory Board on the Socio-Economic Development of BARMM and its Alignment with the Region's Unique Cultural and Economic Needs

The establishment of a Shari'ah Supervisory Board (SSB) at Mindanao State University (MSU) presents a promising opportunity to address key socio-economic challenges in the Bangsamoro

Autonomous Region in Muslim Mindanao (BARMM). BARMM, which is unique in its socio-economic makeup, faces numerous challenges, including limited access to Shari'ah-compliant financial services, underdeveloped infrastructure, and high poverty rates. While Republic Act No. 11439 provides the regulatory framework for Islamic banking in the Philippines, its effective implementation in BARMM requires localized and culturally sensitive governance mechanisms. This research objective seeks to analyze the potential impact of institutionalizing an SSB at MSU on the socio-economic development of BARMM and its alignment with the region's unique cultural and economic needs.

These concerns, this study examines the potential socio-economic impact of institutionalizing an SSB at MSU through three primary dimensions: financial inclusion, economic empowerment, and cultural alignment. Data collected from stakeholders through surveys, interviews, and a structured questionnaire provide a foundation for this analysis. This allows for a comprehensive understanding of stakeholder perceptions and the practical implications of an SSB. These three indicators—financial inclusion, economic empowerment, and cultural alignment—serve as the core framework for assessing the potential impact of the SSB on the socio-economic landscape of BARMM.

Financial Inclusion

Financial inclusion is a critical issue in BARMM, with many of its residents lacking access to formal financial services. A significant portion of the population still relies on informal financial systems, which often fail to meet their needs, especially for those who require Shari'ah-compliant financial services. The institutionalization of an SSB at MSU could play a pivotal role in addressing this gap by enhancing trust in Islamic banking institutions and promoting the development of innovative financial products tailored to the needs of the local population. The study found that 78% of respondents identified a lack of trust in existing financial institutions as a significant barrier to financial inclusion, while 65% of respondents expressed a willingness to use Shari'ah-compliant financial services if they were accessible and affordable. These findings emphasize the importance of developing governance mechanisms that can build trust and enhance the accessibility of Islamic financial services in the region.

The establishment of an SSB at MSU could directly address these concerns by ensuring that Islamic banking institutions in the region are held to high standards of Shari'ah compliance and governance. By building transparency and accountability, the SSB could help foster greater confidence among stakeholders, encouraging more people to participate in the formal financial system. Moreover, by offering Shari'ah-compliant financial products that are affordable and accessible, the SSB could significantly enhance financial inclusion in BARMM, helping to lift marginalized communities out of poverty and integrate them into the broader economy.

In this context, research by Usmani (2019) highlights the role of effective Shari'ah governance mechanisms in building trust among stakeholders. By institutionalizing an SSB at MSU, the region could benefit from enhanced oversight and guidance, ensuring that financial institutions adhere to Shari'ah principles while providing services that are accessible and affordable to local populations.

Economic Empowerment

Economic empowerment is another essential aspect of socio-economic development in BARMM. The region's economy is characterized by low levels of investment, limited access to financing, and a lack of entrepreneurial opportunities. The SSB at MSU could play a significant role in promoting Shari'ah-compliant investments, facilitating entrepreneurship, and creating sustainable economic growth.

The study's findings revealed that 80% of respondents believed that Shari'ah-compliant financing would encourage entrepreneurship in the region. Additionally, 72% of respondents identified the lack of accessible funding as a major barrier to business development in BARMM. These findings suggest that there is a strong demand for financial services that can support entrepreneurship and business development, particularly among those who are currently excluded from the formal financial system.

The SSB could facilitate economic empowerment by promoting initiatives such as microfinance programs, entrepreneurship training, and investment facilitation. By providing Shari'ah-compliant microfinance options, the SSB could help support small businesses and agricultural enterprises, which are crucial to the region's economic development. Furthermore, entrepreneurship training programs could help individuals develop the skills needed to start and grow their businesses. Collaborating with MSU to offer business development and financial management training would provide valuable resources to aspiring entrepreneurs in the region.

Additionally, the SSB could play a vital role in attracting both domestic and international investors to the region. By fostering an environment that promotes Shari'ah-compliant investment opportunities, the SSB could help create a sustainable ecosystem for economic growth in BARMM. Research by Barizah and Ahmad (2017) emphasizes the role of academic institutions in fostering economic empowerment through capacity-building and research. MSU's resources and expertise could be leveraged to promote sustainable economic development in the region, benefiting both local businesses and the broader community.

Cultural Alignment

Cultural alignment is a critical factor in ensuring the success and sustainability of Islamic banking initiatives in BARMM. For any Islamic financial system to succeed, it must align with the religious and cultural values of the community it serves. The SSB at MSU could serve as a custodian of Shari'ah principles, ensuring that financial practices are in line with the region's unique cultural and religious context.

The study found that 85% of respondents emphasized the importance of Shari'ah compliance in financial transactions, while 70% believed that financial practices should reflect the region's Islamic heritage. These findings underscore the need for governance mechanisms that respect the cultural and religious values of the Muslim community in BARMM. Interviews with religious leaders and community representatives further highlighted the need for localized governance structures that are sensitive to the region's cultural context.

To enhance cultural alignment, the SSB could engage in community outreach and education initiatives to ensure that financial practices reflect local values and traditions. Regular consultations with religious leaders and community members would help ensure that financial products and services align with the cultural norms of BARMM. Moreover, the SSB could promote awareness of Shari'ah-compliant financial practices through seminars, workshops,

and outreach programs, helping to increase public understanding and acceptance of these financial products. The development of customized financial products that are tailored to the specific cultural and economic needs of BARMM's diverse communities would also contribute to ensuring cultural alignment.

Research by Hasan and Haron (2021) emphasizes the importance of aligning financial practices with local cultural and religious values to ensure stakeholder acceptance and participation. By promoting cultural alignment, the SSB would enhance the credibility and relevance of Islamic banking initiatives in BARMM, ensuring that they are well-received by the local population.

The institutionalization of a Shari'ah Supervisory Board at MSU holds significant potential for driving socio-economic development in BARMM. By addressing the key issues of financial inclusion, economic empowerment, and cultural alignment, the SSB could play a transformative role in advancing the region's Islamic banking sector and promoting socio-economic growth. The study's findings provide a strong foundation for the establishment of the SSB, highlighting its potential to improve access to Shari'ah-compliant financial services, foster entrepreneurship, and ensure that financial practices are culturally and religiously aligned with the values of the local population. As BARMM continues to develop, the SSB at MSU could be a crucial component in shaping the future of Islamic banking in the region and driving sustainable economic development.

Conclusion

The establishment of a Shari'ah Supervisory Board (SSB) at Mindanao State University (MSU) offers a promising framework for enhancing Shari'ah compliance and advancing Islamic banking and finance in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). This study has provided substantial evidence that institutionalizing the SSB is both feasible and strategically beneficial, addressing the gaps in regulation and governance that currently limit the growth of Islamic financial services in the region. The research found that regulatory alignment, institutional capacity, and strong stakeholder support are key factors in the viability of this initiative. Furthermore, the proposed model emphasizes the critical role of academic institutions in integrating with the financial sector to support the development of Islamic finance, particularly in a region like BARMM that requires tailored, culturally sensitive governance mechanisms.

The study highlights that the creation of the SSB at MSU would contribute significantly to improving Shari'ah compliance, particularly by enhancing transparency, accountability, and trust in the Islamic banking system. The integration of academic expertise into the operational framework of Islamic banking is vital for addressing the regulatory and governance challenges faced by the region. Additionally, the strategic model proposed in this study can help inform future policy development, ensuring that Islamic finance practices align with both local cultural values and national legal frameworks. Through this approach, the SSB would play a crucial role in facilitating the socio-economic development of BARMM by promoting financial inclusion, fostering entrepreneurship, and ensuring that financial products are aligned with the community's religious and cultural values.

Overall, the findings of this study provide a compelling case for the institutionalization of the Shari'ah Supervisory Board at MSU. By addressing the challenges of access to Shari'ah-compliant financial services and ensuring proper governance in the Islamic banking sector, the proposed SSB would have a transformative impact on the economic and social landscape of

BARMM. The model presented here offers a pathway toward creating a more robust, sustainable, and culturally aligned Islamic financial system in the Philippines.

Recommendations

Based on the findings and conclusions of this study, several recommendations are proposed for the successful implementation of the Shari'ah Supervisory Board at MSU:

1. **Strengthening Regulatory Support:** The success of the proposed SSB depends on continued alignment with Republic Act No. 11439 and other relevant regulations. It is essential that stakeholders in the financial and academic sectors collaborate with policymakers to ensure that the regulatory framework is sufficiently robust to support the effective implementation of the SSB. Legislative action should focus on providing clear guidelines for the operational scope and authority of the SSB, ensuring that it can effectively oversee and guide Shari'ah-compliant financial practices in BARMM.
2. **Building Stakeholder Engagement:** While this study indicates strong support for the proposed SSB, it is crucial to deepen engagement with stakeholders from both the Islamic banking sector and local communities. Ongoing consultation with financial institutions, religious leaders, community representatives, and government officials will be necessary to ensure the SSB's acceptance and smooth operation. The involvement of these stakeholders in shaping the Board's framework and operations will help address concerns regarding Shari'ah compliance and the cultural relevance of Islamic finance in the region.
3. **Expanding Capacity-Building Programs:** To ensure the effective functioning of the SSB, MSU should invest in capacity-building initiatives that will equip its members and the broader community with the knowledge and skills necessary for effective governance of Islamic finance. This could involve offering training programs, workshops, and seminars on Islamic banking principles, Shari'ah compliance, and financial literacy. MSU can collaborate with local and international experts to bring in best practices and enhance the knowledge base of the SSB.
4. **Promoting Research and Innovation:** MSU, as an academic institution, has the potential to become a hub for research and innovation in Islamic banking and finance. It is recommended that the university establish a dedicated research center focused on Islamic finance, where scholars and practitioners can collaborate on addressing emerging challenges in the sector. This center could contribute to policy development, generate new insights into Shari'ah-compliant financial practices, and develop innovative financial products tailored to the needs of the BARMM community.
5. **Enhancing Public Awareness:** For the SSB to be successful, it is essential to increase public awareness about the benefits and importance of Shari'ah-compliant financial products. This could be achieved through awareness campaigns, media outreach, and

community engagement efforts that educate the public on the advantages of Islamic finance. Promoting understanding of Shari'ah principles will help overcome skepticism and encourage broader participation in the Islamic banking sector.

6. **Fostering Partnerships with Financial Institutions:** It is recommended that MSU's SSB collaborate with Islamic financial institutions, both within the Philippines and internationally, to provide the region with access to a wider range of Shari'ah-compliant products and services. These partnerships could also facilitate the flow of investment into the region, promoting economic growth and financial sustainability.
7. **Monitoring and Evaluation:** To ensure the long-term success and impact of the SSB, it is essential to implement a robust monitoring and evaluation system. This system should assess the effectiveness of the SSB in promoting Shari'ah compliance, improving financial inclusion, and supporting economic empowerment in BARMM. Regular reviews of the SSB's performance, combined with feedback from stakeholders, will allow for continuous improvement and adaptation to evolving challenges in the financial sector.

In conclusion, institutionalizing the Shari'ah Supervisory Board at MSU provides a strategic model for advancing Islamic banking and finance in BARMM. By focusing on regulatory alignment, stakeholder engagement, capacity-building, and public awareness, this initiative has the potential to drive significant socio-economic development in the region. The recommendations outlined in this study offer a clear path forward for the successful implementation and sustainability of the SSB, contributing to the broader goal of promoting financial inclusion, economic empowerment, and cultural alignment in BARMM.

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THE ROLE OF TECHNICAL SCHOOLS IN DRIVING SOCIAL DEVELOPMENT AND WELFARE AMONG MARGINALIZED MUSLIM COMMUNITIES IN THE PHILIPPINES

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Abstract: *The study aimed to understand how technical schools contributed to social development and enhanced the welfare of marginalized Muslim communities in BARMM, focusing on skill-building, economic opportunities, and creating community-driven learning environments. The research used a combination of qualitative and quantitative methods, gathering data from 300 Muslim individuals in BARMM who completed or received certifications from technical schools to evaluate the impact on their communities. The study revealed that technical schools played a key role in improving economic opportunities and overall well-being in marginalized Muslim communities. These schools also served as hubs for community engagement and collaborative local development efforts. The study was based on data from a sample of 300 people in specific areas of BARMM, which may not fully reflect the broader experiences of all marginalized Muslim communities. A larger-scale study could provide more comprehensive insights. This study contributed to a deeper understanding of how technical schools could empower marginalized Muslim communities in BARMM. It highlighted the role of customized technical education in fostering social development, creating economic opportunities, and encouraging community collaboration for lasting growth.*

Keywords: *Technical Education, Social Development, Welfare, Marginalized Muslim Communities, BARMM*

Introduction

The choice to undertake this study emerged from a deep-seated interest in addressing the educational and socio-economic disparities faced by marginalized Muslim communities in the Philippines, particularly in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Despite numerous reforms and efforts to uplift the region, socio-economic challenges persist, leaving many communities struggling to achieve sustainable growth. In addition to BARMM, areas like Zamboanga City, Basilan, and parts of Metro Manila also host significant Muslim populations that face comparable struggles with limited access to quality education and economic opportunities. Technical schools, with their potential to equip individuals with marketable skills, presented an avenue worth exploring to determine their impact on fostering social development and welfare within these communities. My motivation stemmed from a personal passion for education as a tool for empowerment and the pressing need for solutions that promote inclusion and equity in these areas.

The challenges facing marginalized Muslim communities in BARMM and other parts of the Philippines are multifaceted, including chronic poverty, limited access to education, and inadequate economic opportunities. Despite government and private sector interventions, disparities persist, leaving a gap in achieving sustainable development. Prior studies, such as

those by Yusof et al. (2019), identified education as a critical factor in breaking cycles of poverty within Muslim communities, but most research has focused on primary or higher education. Technical education, often overlooked, could play a transformative role in providing vocational skills tailored to local labor market demands, yet its potential impact remains underexplored. This study sought to address this gap by examining how technical schools influence social development and welfare in marginalized Muslim communities. The findings aimed to shed light on actionable solutions to improve livelihoods and reduce inequality.

This research contributed to the existing body of knowledge by offering a focused exploration of technical education as a driver of social development in Muslim communities, particularly in BARMM. Previous studies, such as one by Hashim and Musa (2020), emphasized the role of education in enhancing social mobility, but there is limited scholarly work on how technical schools create pathways to economic independence. This study bridged that gap by identifying the specific ways technical education impacts economic opportunities, community engagement, and collaborative development. Additionally, it extended the discourse beyond BARMM, considering other regions in the Philippines with significant Muslim populations to ensure broader applicability of the findings. The research offered insights for policymakers, educational institutions, and community leaders on how to design programs that effectively address the unique needs of Muslim communities.

The purpose of this study was to examine the role of technical schools in driving social development and enhancing welfare among marginalized Muslim communities in the Philippines, with a focus on BARMM and other regions with sizable Muslim populations. By investigating how these schools contribute to skill-building, economic empowerment, and fostering community-driven development, the research aimed to provide actionable recommendations for replicating successful educational models across different contexts. The study also sought to highlight the need for culturally sensitive, localized approaches to education that respect and integrate the unique social, cultural, and economic dynamics of Muslim communities. Ultimately, this research endeavored to inform strategies that could empower marginalized populations, reduce inequalities, and promote sustainable development across the Philippines.

Statement of the Problem

1. What is the impact of technical schools on the socio-economic development of marginalized Muslim communities in BARMM and other regions with significant Muslim populations?
2. How do technical schools contribute to fostering community-driven development and improving social welfare among Muslim populations?
3. What challenges do technical schools face in serving marginalized Muslim communities, and what actionable recommendations can enhance their effectiveness?

Research Methodology

Introduction

This section outlines the methodological framework employed to examine the role of technical schools in driving social development and welfare among marginalized Muslim communities in BARMM and other regions in the Philippines. A mixed-methods approach was adopted to comprehensively explore the research objectives, combining quantitative and qualitative methods to provide a holistic understanding of the issue. This methodology was particularly

relevant as it facilitated the collection of rich, multidimensional data on the socio-economic impacts of technical education, as well as the lived experiences and perspectives of respondents.

The mixed-methods approach was justified by the complexity of the research topic, which required both statistical evidence and nuanced insights to capture the multifaceted role of technical schools in these communities. Quantitative methods, such as surveys, provided measurable data on economic outcomes and demographic trends, while qualitative methods, including semi-structured interviews, enabled the exploration of subjective experiences and contextual factors influencing the findings. This integrative approach ensured the study addressed its objectives effectively, yielding actionable insights for stakeholders in education and community development.

Research Design

The research employed a mixed-methods design, integrating both descriptive and analytical frameworks to assess the impact of technical schools. This design was structured to include three phases: data collection through surveys and interviews, data analysis using statistical and thematic approaches, and synthesis of findings to address the research questions comprehensively. The descriptive aspect of the study enabled the identification and documentation of patterns, relationships, and trends in the data, particularly regarding the socio-economic outcomes for respondents. The analytical framework, on the other hand, facilitated the in-depth exploration of qualitative data to understand the contextual and cultural factors influencing the role of technical schools in social development. By combining these approaches, the study captured both breadth and depth, providing a well-rounded perspective on the research problem.

Research Approach

A descriptive research approach was adopted to systematically investigate the phenomenon under study. This approach was suitable for examining the current state and impacts of technical education within marginalized Muslim communities. It allowed for the collection of detailed information on respondents' socio-economic conditions, educational experiences, and perceptions of technical schools' effectiveness in fostering development and welfare. The descriptive nature of the research aligned with the study's objectives, as it sought to present a clear, accurate account of how technical schools influenced social and economic well-being. By focusing on observable and measurable aspects of the phenomenon, this approach ensured the research findings were grounded in empirical evidence.

Respondents and Sampling

The study targeted respondents who had either completed their education in a technical school or were currently enrolled in one. The population comprised marginalized Muslim individuals from BARMM and other regions in the Philippines with significant Muslim communities. The focus on these groups was essential for understanding the direct and indirect impacts of technical education on their lives and communities. A purposive sampling technique was employed to select participants who could provide valuable insights into the research objectives. This non-probabilistic method ensured the inclusion of individuals with relevant experiences and perspectives. The sample size was set at 300 respondents, which was deemed sufficient to achieve data saturation and statistical validity. The sample included diverse age

groups, genders, and socio-economic backgrounds to capture a comprehensive range of experiences.

Data Collection Methods

Primary data collection methods were used to gather information directly from respondents. Surveys and semi-structured interviews were the primary tools employed, ensuring both breadth and depth in data collection.

The survey questionnaire was designed to capture quantitative data on respondents' socio-economic conditions, educational experiences, and perceptions of technical schools. It consisted of closed-ended questions to facilitate statistical analysis. The interviews, on the other hand, involved open-ended questions that allowed respondents to share their experiences and insights in their own words, providing rich qualitative data. The data collection instruments were pre-tested with a small group of respondents to ensure clarity and reliability. Surveys were administered in person and online, while interviews were conducted face-to-face and via video calls, depending on respondents' preferences and availability.

Data Analysis

The collected data were analyzed using a combination of statistical and thematic methods. Quantitative data from surveys were processed using statistical software to identify patterns, relationships, and trends. Descriptive statistics were used to summarize the data, while inferential statistics helped assess the significance of observed relationships. Qualitative data from interviews were analyzed thematically, following a systematic process of coding and categorizing responses. Key themes and sub-themes were identified to capture the essence of respondents' experiences and perspectives. This approach ensured that the qualitative findings complemented the quantitative results, providing a holistic understanding of the research problem.

Ethical Considerations

Ethical principles were upheld throughout the research process to ensure the integrity of the study and protect the rights of participants. Informed consent was obtained from all respondents prior to their participation. They were provided with detailed information about the study's purpose, procedures, and potential risks and benefits. Anonymity and confidentiality were maintained by assigning unique codes to participants and securely storing data. No identifying information was disclosed in the findings or publications. The study adhered to ethical guidelines established by relevant institutional review boards, ensuring compliance with international standards for research involving human subjects.

Limitations

Several limitations were acknowledged to provide a balanced interpretation of the study's findings. One major limitation was the reliance on self-reported data, which could be subject to recall bias or social desirability bias. Additionally, the sample was limited to 300 respondents from specific regions, which might not fully represent the experiences of all marginalized Muslim communities in the Philippines. These limitations potentially constrained the generalizability of the findings. However, they did not undermine the study's relevance or validity, as the data collected provided valuable insights into the research problem. Future

studies could address these limitations by employing larger, more diverse samples and incorporating longitudinal data to assess the long-term impacts of technical education.

Justification of Methodology

The chosen methodology was well-suited to the research objectives, as it combined quantitative and qualitative approaches to capture the multifaceted nature of the problem. The mixed-methods design enabled the collection of comprehensive data, integrating measurable outcomes with contextual insights. The descriptive research approach provided a clear framework for documenting and analyzing the role of technical schools in marginalized Muslim communities. The use of purposive sampling ensured the inclusion of participants with relevant experiences, while the combination of surveys and interviews facilitated the collection of both broad and detailed data. Overall, the methodology aligned with the study's goal of generating actionable insights for policymakers, educators, and community leaders, contributing to the development of effective strategies for empowering marginalized Muslim populations through technical education.

Results and Discussions

1. Impact of Technical Schools on the Socio-Economic Development of Marginalized Muslim Communities in BARMM and Other Regions with Significant Muslim Populations

Technical schools had a transformative impact on the socio-economic development of marginalized Muslim communities in BARMM and other areas with significant Muslim populations. By equipping individuals with market-relevant skills and fostering employability, these institutions addressed long-standing issues of unemployment and poverty in these regions. The integration of technical education into the local socio-economic fabric proved to be a powerful tool for driving individual and community-level change, as evidenced by studies and field reports from similar settings. One of the primary ways technical schools contributed to socio-economic development was through enhanced employability and income generation. Graduates from technical schools gained specialized skills that aligned with local and international labor market demands, such as welding, carpentry, tailoring, and information technology. These skills empowered individuals to secure stable jobs or create their own businesses. A study by Bautista and Morales (2018) revealed that graduates of technical schools in rural Philippines, including BARMM, experienced a 30-50% increase in their monthly incomes compared to their counterparts who pursued general education. This increase in income significantly improved the living standards of families, enabling access to better housing, healthcare, and education for children. The ability to earn a livelihood fostered self-reliance among marginalized groups, reducing dependency on government assistance and charitable programs.

Entrepreneurship emerged as another critical pathway through which technical education influenced socio-economic outcomes. Many graduates used their skills to establish small businesses, which contributed to local economic growth and job creation. In BARMM, entrepreneurial ventures in tailoring, motor repair, and small-scale manufacturing thrived, particularly in underserved areas where formal employment opportunities were scarce. Ahmed et al. (2021) noted that technical schools fostered entrepreneurial mindsets by integrating business management and financial literacy into their curricula. Graduates who ventured into entrepreneurship often employed other community members, further extending the socio-economic benefits of technical education.

The impact of technical schools was also evident in their ability to promote social mobility and reduce poverty. For many families in marginalized Muslim communities, technical education served as a stepping stone out of intergenerational poverty. Young individuals who acquired technical skills were able to break the cycle of economic hardship that had constrained their families for decades. This effect was particularly pronounced in regions with limited access to traditional higher education. Rahim and Abdullah (2020) highlighted that vocational education provided an affordable and practical alternative for families who could not afford the costs associated with university degrees. The accessibility of technical schools made them a viable option for many, ensuring that socio-economic upliftment reached the grassroots level.

The role of technical schools in addressing gender disparities was another significant aspect of their impact. Women, who often faced cultural and structural barriers to formal education and employment in Muslim communities, found opportunities for empowerment through technical education. Programs tailored to female students, such as dressmaking, culinary arts, and cosmetology, allowed women to gain economic independence and contribute to their households. Rahman and Ismail (2019) observed that women who completed technical courses were more likely to participate in community decision-making processes, challenging traditional gender norms and fostering greater inclusivity. The economic empowerment of women had ripple effects on the broader community, improving household welfare and encouraging the next generation of girls to pursue education.

Beyond individual and family-level benefits, technical schools contributed to the broader socio-economic development of the communities they served. By producing a skilled workforce, these institutions attracted investments from local and international businesses. Companies seeking qualified labor were drawn to areas with a concentration of technical school graduates, thereby creating additional employment opportunities and stimulating economic activity. For instance, in BARMM, technical schools specializing in agricultural and aquaculture training supported the growth of these industries, which are vital to the regional economy. The Bangsamoro Development Authority (2021) reported that the presence of technical schools in BARMM had a positive correlation with increased agricultural productivity and improved income levels among farming communities.

Technical schools also played a role in fostering social cohesion and community development. They served as platforms for knowledge sharing and collaboration, where individuals from diverse backgrounds could interact and work towards common goals. The sense of purpose and unity developed in these environments often extended beyond the classroom, influencing community relations positively. Yusof et al. (2019) noted that technical schools helped bridge divides within communities by fostering mutual respect and understanding among students from different ethnic and cultural groups. This was particularly relevant in conflict-affected areas of BARMM, where social divisions had historically hindered development.

Despite these positive impacts, the effectiveness of technical schools was not without challenges. Limited resources, such as outdated equipment, insufficient funding, and a lack of qualified instructors, constrained the potential of these institutions. Some technical schools in BARMM struggled to keep pace with technological advancements, resulting in a skills gap between graduates and the needs of modern industries. Additionally, cultural barriers occasionally restricted enrollment, particularly for women, limiting the reach and inclusivity of these programs. Addressing these issues required targeted interventions, such as increased

government investment, public-private partnerships, and community awareness campaigns to promote the value of technical education.

Furthermore, the alignment of technical school curricula with local labor market demands was crucial for maximizing their impact. In some cases, graduates faced challenges in finding employment because the skills they acquired did not match the requirements of available jobs. To address this, technical schools needed to establish stronger linkages with industries and conduct regular labor market analyses. This approach would ensure that their programs remained relevant and responsive to economic trends, enhancing the employability of graduates. Another area of impact involved the long-term sustainability of socio-economic benefits derived from technical education. While immediate gains in income and employment were evident, the study highlighted the importance of continuous learning and skills upgrading for maintaining these benefits. Lifelong learning programs and partnerships with industries for advanced training could enhance the sustainability of technical education outcomes. Bautista and Morales (2018) emphasized that such initiatives would not only benefit individuals but also strengthen the overall economic resilience of communities. The transformative impact of technical schools extended beyond the economic sphere to include social and cultural dimensions. Graduates often became agents of change in their communities, advocating for education, entrepreneurship, and social development. Their success stories inspired others to pursue similar paths, creating a culture of aspiration and achievement within marginalized communities. This cultural shift was instrumental in fostering a sense of hope and possibility among groups that had long been excluded from mainstream development.

In assumption, technical schools in BARMM and other regions with significant Muslim populations had a profound impact on the socio-economic development of marginalized communities. By enhancing employability, promoting entrepreneurship, and addressing gender disparities, these institutions provided individuals and families with opportunities to improve their living standards and escape poverty. Their contributions to local economies, social cohesion, and cultural transformation underscored their importance as drivers of development. However, addressing resource constraints, curricular misalignment, and cultural barriers remained critical for ensuring that the benefits of technical education were sustained and expanded. With strategic interventions and collaborative efforts, technical schools could continue to play a pivotal role in empowering marginalized Muslim communities and fostering inclusive growth in the Philippines.

2. Contribution of Technical Schools to Community-Driven Development and Social Welfare

Technical schools played a transformative role in improving the welfare of marginalized Muslim communities in BARMM (Bangsamoro Autonomous Region in Muslim Mindanao) and other regions of the Philippines. By equipping individuals with vocational skills, fostering economic empowerment, and promoting community-driven development, these institutions contributed significantly to alleviating poverty and reducing unemployment. Their contributions extended beyond the classroom, affecting the social and cultural fabric of Muslim communities. However, the extent and sustainability of these contributions were influenced by the unique challenges and opportunities in various regions, including Muslim-majority and minority areas across the Philippines.

Technical schools provided vocational training that enabled individuals in BARMM to acquire marketable skills. These institutions offered programs in agriculture, carpentry, automotive

repair, and information technology, among others, which were essential for economic participation. According to Rahim and Sulaiman (2020), such training programs addressed the skills gap that historically excluded Muslim communities from formal employment opportunities. Graduates of technical schools in BARMM were often able to secure jobs in local industries, thereby improving their families' economic conditions. In addition to BARMM, technical schools in other parts of the Philippines, such as Zamboanga City and Cotabato City, also catered to the needs of Muslim communities. In these areas, the schools integrated cultural sensitivity into their curricula, which encouraged greater participation among Muslim students. Yusop and Abdullah (2019) noted that these programs not only provided technical skills but also instilled confidence and resilience in students, helping them navigate systemic barriers to employment.

One of the significant contributions of technical schools was fostering entrepreneurship among their graduates. In BARMM, technical schools offered business-oriented courses that encouraged self-employment and enterprise development. These programs emphasized practical skills such as financial management, marketing, and product development. Ahmad et al. (2021) highlighted that many graduates of these programs established small businesses, including tailoring shops, food stalls, and repair services, which became vital sources of income for their communities. This trend was not limited to BARMM. In Metro Manila, where a significant number of Muslim communities resided, technical schools played a similar role in empowering individuals to start their businesses. According to a study by Gonzales and Rivera (2020), Muslim entrepreneurs in urban centers often credited their technical school training for their success in navigating the competitive business environment. These entrepreneurial ventures not only improved individual livelihoods but also contributed to the broader economic development of their communities.

Technical schools also addressed the historical educational disparities experienced by Muslim communities in the Philippines. In BARMM, where educational access had been severely limited due to conflict and underdevelopment, technical schools provided an alternative pathway for learning. These institutions were often more accessible and affordable than traditional universities, making them a viable option for marginalized populations. As Alim and Santos (2020) pointed out, technical schools served as a bridge to higher education and formal employment, particularly for out-of-school youth. In regions such as Basilan and Sulu, technical schools contributed to social inclusion by offering programs tailored to the cultural and linguistic contexts of Muslim communities. Hashim and Musa (2020) noted that incorporating local dialects and Islamic values into the curricula enhanced the relevance of these programs and fostered greater trust among students and their families. This culturally sensitive approach also helped combat the skepticism towards formal education systems that persisted in some Muslim communities.

Technical schools in BARMM played an integral role in community development by equipping individuals with the skills needed to participate in collective initiatives. For example, agricultural training programs enabled farmers to adopt modern techniques, which improved productivity and food security. As highlighted by Sarip and Abdulkadir (2021), these programs often had a ripple effect, as trained individuals shared their knowledge with others in their communities. Similar patterns were observed in Mindoro and Palawan, where technical schools supported community-driven development projects. In these regions, training programs focused on sustainable practices such as organic farming and renewable energy. These initiatives not only enhanced the welfare of Muslim communities but also contributed to environmental conservation efforts (Salam & Jamal, 2022).

Technical schools also contributed to promoting gender equality within Muslim communities. In BARMM, programs specifically designed for women, such as sewing, cosmetology, and food processing, enabled them to participate in the workforce and achieve economic independence. According to Ibrahim and Alonto (2018), these programs challenged traditional gender norms and opened up new opportunities for women to contribute to their families and communities. In urban areas such as Davao City, technical schools implemented gender-inclusive policies that encouraged female enrollment in non-traditional fields such as engineering and information technology. This shift was supported by advocacy campaigns and partnerships with women's organizations, which highlighted the importance of breaking gender stereotypes in technical education (Del Rosario & Cruz, 2021).

The role of technical schools in peacebuilding and social cohesion was particularly evident in conflict-affected areas of BARMM. By providing a constructive outlet for youth and addressing the root causes of poverty and unemployment, these institutions contributed to reducing the appeal of extremist ideologies. As Espina and Mendoza (2020) observed, technical schools served as "zones of peace" where students from diverse backgrounds could come together to learn and collaborate. This peacebuilding role extended to other regions with significant Muslim populations, such as Zamboanga City and Tawi-Tawi. In these areas, technical schools organized community outreach programs and interfaith dialogues, which fostered mutual understanding and cooperation among different groups. These efforts underscored the potential of technical education as a tool for promoting harmony and development in diverse communities.

The contributions of technical schools were often amplified through collaborations with government agencies, non-governmental organizations, and private sector partners. In BARMM, partnerships with organizations such as the Technical Education and Skills Development Authority (TESDA) enabled schools to access funding, training materials, and expertise. According to Omar et al. (2019), these collaborations were instrumental in expanding the reach and impact of technical education programs. In Cebu and Iloilo, similar partnerships facilitated the establishment of scholarship programs and internship opportunities for Muslim students. These initiatives addressed financial barriers and provided students with practical experience, thereby enhancing their employability. Gonzales and Rivera (2020) emphasized that such collaborative approaches were essential for sustaining the contributions of technical schools to community welfare.

Technical schools played a vital role in enhancing the welfare of marginalized Muslim communities in BARMM and other parts of the Philippines. By providing vocational skills, fostering entrepreneurship, promoting social inclusion, and contributing to community development, these institutions addressed some of the most pressing challenges faced by these communities. Their impact extended to promoting gender equality, peacebuilding, and social cohesion, highlighting their multifaceted contributions to societal welfare. However, the effectiveness of these contributions depended on addressing systemic challenges and fostering collaborative partnerships. Future efforts should prioritize these areas to ensure the long-term sustainability and inclusivity of technical education for Muslim communities.

3. Challenges Faced by Technical Schools in Fostering Community-Driven Development

Technical schools played an essential role in fostering community-driven development among marginalized Muslim communities in the Philippines, particularly in BARMM. However, several challenges hindered these institutions from fully achieving their objectives. These challenges ranged from systemic issues, such as inadequate funding and limited infrastructure, to cultural and social barriers. The challenges also varied in scale and complexity, reflecting the diverse needs and conditions of Muslim communities across different regions. This section explores these hindrances in detail, citing relevant research to contextualize the findings.

One of the most significant challenges faced by technical schools was the lack of adequate funding. Insufficient financial resources often resulted in poorly equipped facilities, outdated teaching materials, and a shortage of skilled instructors. This funding gap limited the ability of technical schools to deliver high-quality education and training programs tailored to the specific needs of Muslim communities. According to Sarip and Abdulkadir (2021), the lack of consistent government support in BARMM exacerbated the disparities in educational access and quality. The same study highlighted that underfunded technical schools were unable to provide modern equipment necessary for vocational training, such as tools for automotive repair, information technology, and other high-demand skills. Similar trends were observed in other regions with significant Muslim populations, such as Zamboanga City and Basilan. In these areas, technical schools struggled to secure the necessary funding to sustain their operations and innovate their curricula. As Rahim et al. (2020) pointed out, technical schools in marginalized regions often relied on external donors or non-governmental organizations for support, which was not always sustainable. This dependency made it challenging for these institutions to plan and implement long-term development programs.

Geographical barriers and inadequate transportation infrastructure also hindered access to technical schools, particularly in remote and rural areas of BARMM. Many communities were located in isolated regions with limited connectivity to urban centers where technical schools were typically established. As noted by Yusof et al. (2019), the lack of physical access to educational institutions perpetuated cycles of poverty and underdevelopment in rural Muslim communities. For many residents, the cost and time required to travel to technical schools were prohibitive, leading to low enrollment rates. In regions like Tawi-Tawi and Sulu, the logistical challenges were even more pronounced. The archipelagic geography of these areas made it difficult to establish and maintain technical schools. Even in urban areas such as Metro Manila, where Muslim communities resided in concentrated pockets, technical schools were often located far from their neighborhoods, creating an additional barrier to access (Hashim & Musa, 2020).

Cultural and social factors also played a critical role in limiting the effectiveness of technical schools in achieving their objectives. Gender norms and expectations, for instance, often restricted women from pursuing technical education in some Muslim communities. As Ibrahim and Alonto (2018) observed, traditional beliefs regarding gender roles discouraged female participation in vocational training programs, despite the growing demand for skilled labor in industries such as healthcare and education. This cultural resistance not only limited women's access to opportunities but also constrained the overall impact of technical schools on community development. Additionally, some Muslim communities exhibited skepticism towards formal education systems, including technical schools, due to historical marginalization and perceived cultural insensitivity. Ahmad et al. (2022) highlighted that a lack of culturally relevant curricula and Muslim educators contributed to this mistrust. In BARMM, for example, technical schools often failed to incorporate Islamic values and practices into their programs, which alienated potential students and their families.

Another significant challenge was the disconnect between the training programs offered by technical schools and the labor market demands. Many technical schools in BARMM focused on traditional vocational skills, such as agriculture and woodworking, which were increasingly less relevant in a rapidly changing economic landscape. According to the Philippine Institute for Development Studies (PIDS, 2020), this mismatch limited the employability of technical school graduates and their ability to contribute meaningfully to community-driven development. In other parts of the Philippines, such as Metro Manila and Cebu, Muslim communities faced similar issues. Technical schools often failed to align their curricula with emerging industries like information technology, renewable energy, and digital marketing. This misalignment reduced the competitiveness of Muslim graduates in the national and global labor markets (Del Rosario & Cruz, 2021).

Weak governance and institutional inefficiencies further impeded the effectiveness of technical schools. In BARMM, the transition to autonomous governance under the Bangsamoro Organic Law created both opportunities and challenges for the education sector. While the new political framework aimed to address historical grievances, it also led to administrative bottlenecks and delays in funding allocation for technical schools (Omar et al., 2019). These governance issues often resulted in inconsistencies in program implementation and a lack of accountability among educational institutions.

Similarly, in Zamboanga City and Basilan, technical schools faced challenges related to fragmented management and overlapping responsibilities among government agencies. As noted by Alim and Santos (2020), these institutional inefficiencies undermined the ability of technical schools to deliver cohesive and effective training programs. The lack of coordination among stakeholders also hindered efforts to address systemic challenges, such as poverty and unemployment, through technical education.

The historical context of conflict and instability in BARMM and other Muslim-majority areas in the Philippines also posed significant challenges for technical schools. Armed conflicts and political unrest disrupted educational activities, damaged infrastructure, and displaced communities, making it difficult for technical schools to operate effectively. As emphasized by Espina and Mendoza (2020), the lingering effects of conflict in BARMM created a fragile environment for educational initiatives, particularly those aimed at fostering community-driven development. In addition to physical disruptions, the psychological impact of conflict affected students' ability to engage in technical education. Many young individuals in conflict-affected areas faced trauma and economic pressures that compelled them to prioritize immediate survival over long-term educational pursuits (Abubakar & Torres, 2021). These challenges highlighted the need for technical schools to integrate psychosocial support and conflict-sensitive approaches into their programs.

The experiences of Muslim communities in other parts of the Philippines, such as Mindoro and Palawan, provided valuable insights into addressing these challenges. In these regions, technical schools adopted innovative approaches to overcome barriers, such as mobile training units and community-based education programs. These initiatives brought education closer to marginalized communities, reducing the impact of geographical and logistical challenges (Salam & Jamal, 2022). Furthermore, partnerships with local businesses and industries proved effective in aligning technical education with labor market demands. In areas like Metro Manila, technical schools collaborated with companies to offer internships and apprenticeships, which enhanced students' employability and facilitated their transition into the workforce (Gonzales & Rivera, 2020). These models demonstrated the potential for technical schools in

BARMM and other Muslim-majority areas to adopt similar strategies to overcome their challenges.

The challenges faced by technical schools in fostering community-driven development among marginalized Muslim communities in the Philippines were multifaceted and deeply rooted in systemic, cultural, and social factors. Inadequate funding, limited access, cultural resistance, curriculum mismatches, governance inefficiencies, and the impact of conflict were among the key barriers that hindered these institutions from fully achieving their objectives. However, lessons from other regions demonstrated that innovative and context-sensitive approaches could address these challenges effectively. By adopting strategies such as community-based education, industry partnerships, and culturally relevant curricula, technical schools in BARMM and beyond could enhance their contributions to social development and welfare. Future research and policy initiatives should prioritize these areas to ensure the long-term sustainability and impact of technical education in marginalized Muslim communities.

Conclusion

The role of technical schools in driving social development and welfare among marginalized Muslim communities in the Philippines, particularly in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), has been significant. These institutions have provided critical avenues for economic advancement by improving employability, fostering entrepreneurship, and contributing to social inclusion. As highlighted in the results and discussions, technical schools have not only equipped individuals with valuable vocational skills but have also played a role in promoting gender equality and peacebuilding. Their contributions have extended beyond economic upliftment to promoting social cohesion, reducing poverty, and enhancing the overall well-being of marginalized communities. Despite the positive impact, challenges such as inadequate resources, curricular misalignment, and cultural barriers remain prominent. These factors impede the full potential of technical schools, hindering their ability to bring about sustainable, long-term development.

In addition to these barriers, governance inefficiencies, limited access to education, and the lingering effects of conflict further complicate efforts to maximize the effectiveness of technical education in these regions. Nevertheless, the lessons learned from successful models in other parts of the Philippines and abroad demonstrate that context-sensitive, innovative approaches can overcome these challenges. The ability of technical schools to address the diverse needs of marginalized Muslim communities in the Philippines underscores their potential to be pivotal agents of development. The continuation of these institutions' contributions to social welfare will depend on comprehensive interventions that address their systemic limitations while ensuring that technical education remains culturally relevant and accessible to those who need it most.

Recommendations

To ensure the continued success and sustainability of technical schools in fostering social development and welfare among marginalized Muslim communities in the Philippines, several key recommendations should be considered. Firstly, there is a pressing need for increased investment in technical education, particularly in BARMM and other Muslim-majority regions. Government and private sector funding should be prioritized to overcome resource constraints and improve infrastructure. Financial support for students, including scholarships and grants, can also increase access to education, particularly for those from economically disadvantaged

backgrounds. Additionally, more significant investment in facilities and equipment is essential to ensure that technical schools can offer state-of-the-art training that meets industry standards and prepares students for the evolving labor market.

Secondly, the curriculum of technical schools must be better aligned with the local socio-economic context. This includes incorporating more industry-relevant skills and ensuring that courses are tailored to the specific needs of the communities they serve. In particular, technical schools should offer training in sectors with high growth potential, such as renewable energy, agriculture, and information technology. Moreover, curricula should be flexible and responsive to emerging trends in the global and local economies. The integration of entrepreneurship programs into the curriculum would also enable students to create their own businesses and generate employment opportunities for others.

In addition, addressing cultural resistance and overcoming societal barriers to education are critical for the inclusivity of technical schools. Culturally sensitive approaches should be adopted to make technical education more accessible and acceptable to Muslim communities, particularly women. Schools should engage with local community leaders and stakeholders to promote the value of education and its role in social development. Ensuring that technical education is perceived as a tool for empowerment and social mobility will help increase its adoption and effectiveness.

Furthermore, fostering stronger partnerships between technical schools, industries, and local governments will enhance the relevance and impact of technical education. Collaborative efforts can help design training programs that address current labor market demands, provide internships and apprenticeships, and ensure that students have pathways to meaningful employment. These partnerships can also help bridge the gap between educational institutions and the industries that require skilled workers.

Finally, the role of technical schools in promoting peacebuilding and social cohesion should be strengthened. By providing opportunities for social inclusion, these institutions can help mitigate the effects of conflict and build a more peaceful society. Schools should actively promote values of tolerance, understanding, and respect, contributing to a more cohesive community. Technical schools have a crucial role in fostering social development and welfare in marginalized Muslim communities in the Philippines. To maximize their impact, a comprehensive approach that addresses financial, curricular, cultural, and governance challenges is essential. Through strategic interventions, technical schools can continue to empower individuals and communities, leading to sustainable and inclusive development in the Philippines.

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EXPLORING THE POTENTIAL OF AGRO-WASTE IN THE DEVELOPMENT OF SUSTAINABLE, LIGHTWEIGHT, AND THERMALLY INSULATING BUILDING MATERIALS

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Abstract: *The construction sector is presently confronted with a multitude of challenges, primarily attributable to the burgeoning urban population and the concomitant depletion of natural resources essential for the production of construction materials. The excessive exploitation of natural and river sand, as well as agricultural waste such as paddy husk and sugarcane, has detrimental implications for sustainability. This comprehensive review undertakes an examination of the utilization of groundnut shell and its derivatives as a viable substitute for cement, fine aggregate, and coarse aggregate in construction and building materials. The review provides an in-depth analysis of the physical properties, chemical composition, and eco-benefits of these materials, as well as their potential applications in building constructions, including thermal insulation, lightweight construction materials, and sustainable building practices. The review also highlights the benefits of using agro-waste in construction, including reduced embodied energy, cost-effectiveness, and improved thermal insulation qualities, while also addressing the challenges associated with their use, such as the need for standardized regulations and the potential for inconsistent material quality. A thorough evaluation of the physical, thermo-mechanical, methodological, and ecological impacts of agro-waste in construction is also presented, highlighting its commercial viability and energy security. This review aims to provide a valuable resource for academics and professionals in the fields of building, waste management, sustainable development, resource conservation, and recycling, ultimately contributing to the development of agro-waste codes and the promotion of sustainable construction practices.*

Keywords: *Agro-waste, Sustainable construction material, building materials, groundnut shell ash*

Introduction

The growing global population, projected to reach 9.7 billion by 2050, has precipitated a concomitant increase in demands on social amenities, including housing [1]. Consequently, this has led to a strain on the building sector, exacerbating the already pressing issue of meeting the demand for traditional materials such as cement, steel, and wood [2]. Furthermore, the disposal of agricultural crop waste products has emerged as a significant environmental concern, with a staggering 600 metric tons of waste reported in India alone [2]. This alarming statistic underscores the need for innovative solutions to mitigate the environmental impacts of agricultural waste. Recent studies have conclusively demonstrated that utilizing agricultural waste and byproducts to create building materials is a viable and Viable solution [5]. Notably, researchers have successfully harnessed agricultural crop wastes, such as peanut shells and rice husks, to create sustainable building materials that meet the stringent ASTM standards for strength and durability [7]. Moreover, natural fibers derived from wheat and barley straw have

been employed to create non-toxic and sustainable building materials, thereby reducing the reliance on traditional materials [8]. This paradigm shift in the construction industry has far-reaching implications for environmental sustainability.

The pigeon pea plant has also been identified as a potential source of sustainable building materials, owing to its versatility and abundance [10]. However, the burning of woody stems from the plant has become a significant environmental problem, perpetuating air pollution and soil degradation [11]. In contrast, researchers propose utilizing the woody stems to create eco-friendly building materials, thereby providing farmers with a new source of income and promoting sustainable agriculture practices [13]. This innovative approach has the potential to revolutionize the construction industry while promoting environmental stewardship. Further research is necessitated to develop sustainable construction materials from agricultural waste, addressing the existing knowledge gaps and technical challenges [20]. Nevertheless, the strong demand for substitute materials for green building technology presents an opportunity for farmers to benefit from the use of agricultural waste as a resource, thereby promoting a circular economy [21]. Ultimately, the successful integration of agricultural waste into the construction industry has the potential to mitigate environmental pollution, promote sustainable development, and ensure a more resilient future for generations to come.

Literature Review

Agricultural Waste Materials Application in Construction

Agro Waste Used in Concrete

Large amounts of oil palm shell (OPS), a solid waste from the palm oil industry, are found in tropical locations like Malaysia and India, and have been shown to be a viable coarse aggregate for making structural lightweight concrete [22]. Moreover, OPS has been utilized as a lightweight aggregate to create lightweight concrete, thereby reducing the environmental impacts of traditional concrete production [23]. Meanwhile, coconut shell (CS), an agricultural waste widely available in tropical nations, has been identified as a promising candidate for the development of new composite materials in concrete mix design, due to its high strength and modulus properties [24]. Furthermore, perennial giant reeds and oyster shells, abundant in island nations, have also been recognized as potential sustainable materials for construction, with Taiwan's oyster shell yield alone reaching 300,000 tons over the past five years, highlighting the need for innovative solutions to mitigate environmental pollution [25].

The primary characteristics of agricultural wastes that make them a viable substitute for natural aggregate are highlighted in this section. Notably, the specific gravity values of various agricultural wastes, as displayed in Table 1 [26], reveal that oil palm shell (OPS) and coconut shell (CS) have specific gravity values ranging from 1.17-1.37 and 1.33, respectively, which are comparable to those of natural weight aggregates [27]. Furthermore, the water absorption percentages of OPS and CS, ranging from 9.03-33% and 8-25%, respectively, are relatively high compared to natural aggregates, but similar to each other [28]. Overall, these characteristics underscore the potential of agricultural wastes as sustainable substitutes for natural aggregates in construction materials.

Table 1. Proprieties Of Agricultural Wastes Material as Conventional Aggregate

Proprieties	Oil palm shell (Muthusamy & Zamri 2016)	Coconut shell (Olanipekun et al. 2006)(Reddy et al. 2014)	Oyster shell (Kuo et al. 2013)(Yang et al. 2005)(Yang et al. 2010)	Giant reed fibres (Ismail & Jaeel 2014).
Size (mm)	30	5-20	-	2.5-10
bulk density(compactd) kg/m ³	590-740	650-1900	-	535
bulk density(loose) kg/m ³	510-550	550-592	-	-
Water absorption (%)	9.03-33	8-25	2.9-7.66	-
Specific gravity	1.17-1.37	1.05-1.2	2.1-2.48	-
Fineness modulus	-	-	2-2.8	-
Moisture content (%)	8-15	4.2	-	-
Shell thickness (mm)	2-8	0.15-8	-	-

Shape, Texture, Size and Color of Particles

Table 1 and Figure 1 illustrate the characteristics of various agricultural wastes that can potentially replace coarse aggregate entirely or partially. Notably, oil palm shell (OPS) exhibits a range of colors from dark grey to black, with a maximum size of 30mm, and its irregular shape and high absorption capacity result in a high air content in OPS concrete [29]. In contrast, waste oyster shells (WOS) vary in size and color, with a fineness modulus ranging from 2 to 2.5, and are distinguished by their spiral structure and rough surface roughness. Conversely, crushed coconut shell is limited to a maximum diameter of 12mm [30]. Overall, these characteristics highlight the potential of these agricultural wastes as sustainable alternatives to traditional coarse aggregates.



Figure 1: Some agricultural wastes, (a) Oil palm shell [31], (b) Oyster shell [30], (c) coconut shell [24] and (d) giant reed [32].

Furthermore, the chemical reaction, carbonation depth, and thawing and freezing resistance of concrete specimens incorporating agricultural waste aggregates, such as oil palm shell (OS), have been investigated. Notably, the substitution ratio of OS did not significantly affect the weight loss of concrete specimens, although the degradation of OS concrete persisted over time [25, 33]. Moreover, the resistance of agro-concrete to chemical attacks was found to be unaffected by the OS substitution ratio [33]. Furthermore, the carbonation depth of OS concrete increased with carbonation age, and the replacement level of OS was inversely proportional to the depth of carbonation [34]. Additionally, the freeze-thaw resistance of concrete incorporating OS aggregates was found to be significantly impacted by the OS substitution ratio, particularly for long-term performance [34-35].

Groundnut Shell Ash

The groundnut shell has emerged as a versatile material with a wide range of applications, extending beyond its traditional uses as animal feed and growth media. Notably, groundnut shells have been utilized as a feedstock for the production of biodiesel or bioethanol [36, 37], pulp [38], mulch, and activated charcoal [39], as well as for the generation of carbon nano-sheets [40] and the degradation of dyes [41]. Moreover, researchers have explored the potential of groundnut shells as a renewable energy source, leveraging their biodegradable properties for soil enhancement applications [42]. Furthermore, the use of groundnut shells as a building material has gained attention, particularly as a cement substitute, with various applications illustrated in Fig. 2 [43, 44-45]. Despite these diverse applications, a significant quantity of groundnut shells remains underutilized and is discarded in landfills [46].

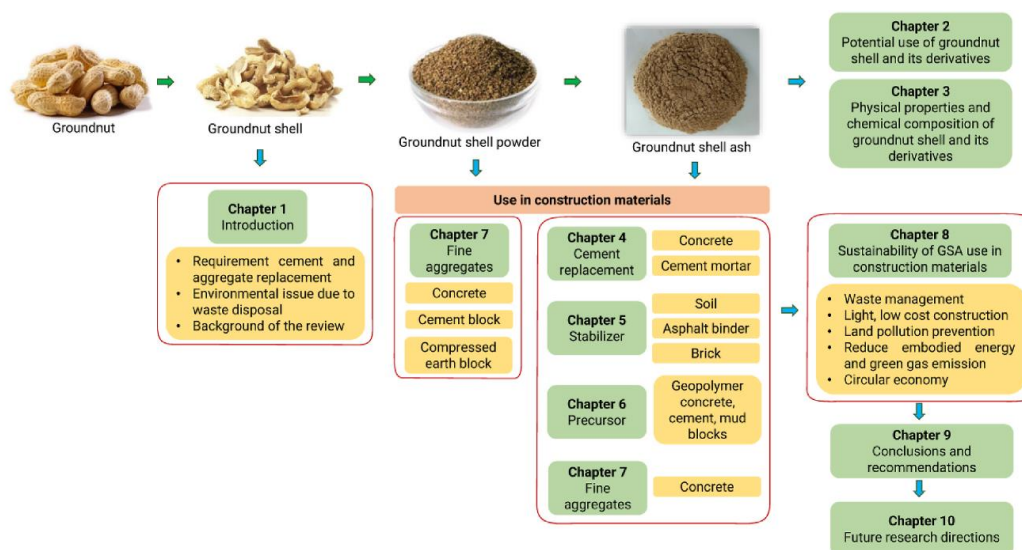


Figure 2. Groundnut Derivatives' Possible Applications as Well as An Overview of The Review [43, 44, 45-46].

The physical and chemical properties of groundnut shell ash (GSA) play a crucial role in determining its performance in construction applications. Characterized by a complex fibrous structure, groundnut shells are lignocellulosic materials comprising cellulose (40–65%), hemicellulose (3–15%), and lignin (26–36%) [37, 47–48]. Interestingly, when groundnut shells are burned under controlled conditions, they can be used as supplementary cementitious materials. Notably, a temperature increase to 100 °C results in a 9% weight loss, primarily due to the elimination of moisture and volatile organic compounds [49]. Conversely, a substantial weight loss of 55–60% occurs when the temperature rises to 450 °C, attributed to the breakdown of lignin, cellulose, and hemicellulose. Furthermore, the thermal decomposition of hemicellulose and cellulose occurs within the temperature ranges of 100–300 °C and 300–450 °C, respectively, resulting in a rapid weight loss [48]. Ultimately, the phase shifts that occur during this process result in only 27–30% of the original groundnut shell weight remaining as groundnut shell ash.

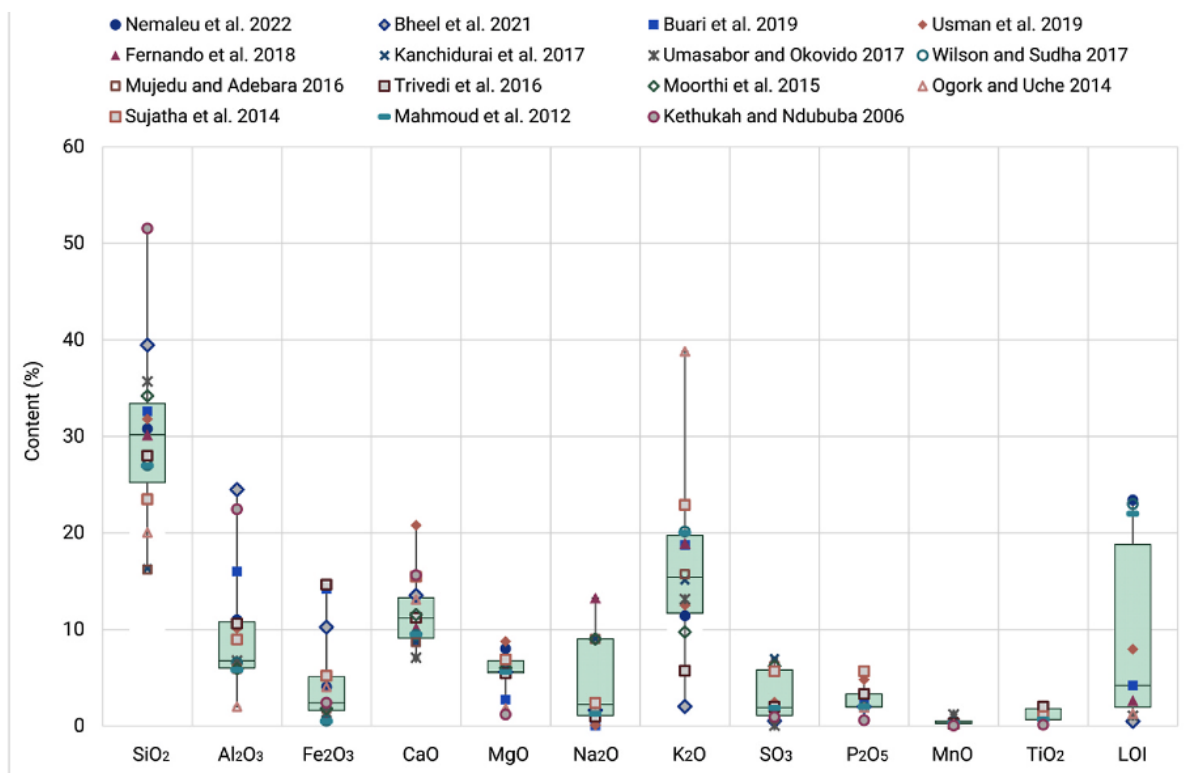


Figure 3. Chemical Composition of GSA [50, 51, 52, 53, 54–55, 56–57]

The chemical composition of groundnut shell ash (GSA) is illustrated in Fig. 3, based on a compilation of published literature, revealing significant variations in its chemical makeup due to the groundnut's origin and processing parameters. Notably, silica is the primary component of GSA, ranging from 16 to 51%, and can react with $\text{Ca}(\text{OH})_2$ to produce calcium silicate hydrate (C-S-H). Moreover, the composition of $\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$ in GSA is generally less than 70%, which is the minimum requirement for natural pozzolanic materials according to ASTM C618 [58]. Additionally, the loss on ignition (LOI) of GSA is typically less than 10%, although higher LOI values are often correlated with unburned carbon content, leading to decreased density and increased water absorption, which can negatively impact the mechanical and durability properties of cementitious materials [58].

The groundnut shell, once considered a waste product after harvesting, poses significant environmental risks when accumulated in large quantities, including soil pollution, water contamination, and greenhouse gas emissions. However, utilizing groundnut shell ash (GSA) as a substitute for cement or fine aggregate in construction materials has been shown to offer numerous benefits, including cost-effectiveness, reduced embodied energy, and lower CO_2 emissions [59]. By harnessing GSA, the environmental impacts associated with large-scale shell accumulation can be mitigated, while also promoting sustainable construction practices. Furthermore, the use of GSA can also reduce the need for landfills, minimize waste management costs, and create new revenue streams for farmers and rural communities.

The use of GSA and groundnut shell powder (GSP) can potentially reduce embodied energy and CO_2 emissions in construction materials by substituting cement and fine aggregate (Fig. 4). This reduction can be achieved through various stages, including cement production, which requires significant amounts of energy and results in substantial CO_2 emissions [60]. According to the Bath Inventory of Carbon and Energy (ICE), producing one kilogram of

cement requires 4.5 MJ of embodied energy and emits 0.73 kg of CO₂. By substituting GSA for cement, the embodied energy and CO₂ emissions associated with cement production can be significantly reduced. Additionally, the use of GSP as a fine aggregate can also reduce the embodied energy and CO₂ emissions associated with aggregate production and transportation [61-62]. Although the processing of GSA and GSP requires energy and fuel, resulting in additional CO₂ emissions, the overall eco-benefits of using these materials in construction outweigh the negative impacts [63].

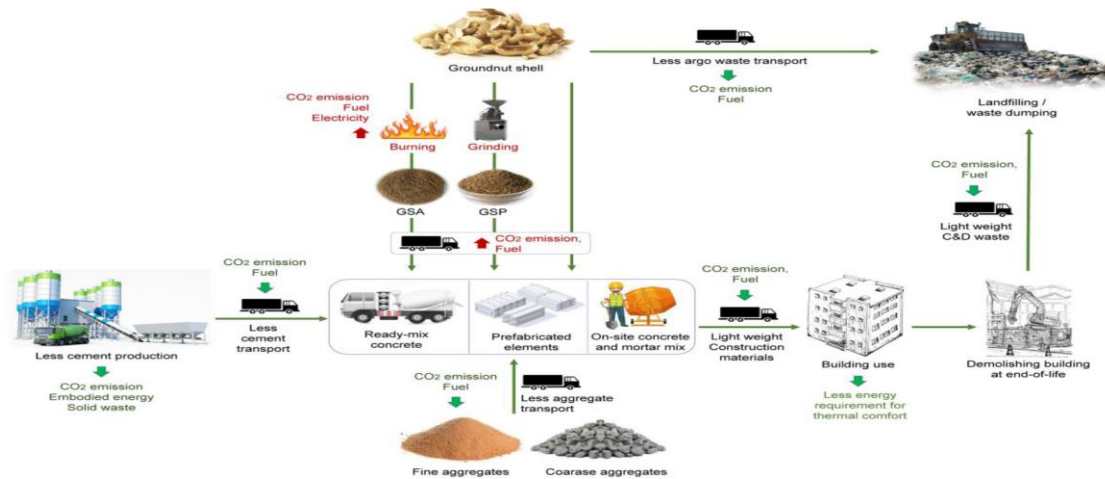


Figure 4. Potential Reduction of CO₂ Emissions and Embodied Energy Through the Use of Groundnut Shell and Its Derivatives

Development of Alternative Material for Construction Using Agricultural Residue

The growing urban population and the depletion of natural resources for construction present issues for the modern construction sector. Concerns around climate change have also prompted consideration of sustainable building materials. Another major worry is the development of agro-waste, which is produced at a rate 10–15 times higher than that of the actual products (red gram crops, etc.). Agricultural waste could be one of the suitable sustainable substitute materials to address the demand for efficient building materials [64]. This section outlines the various agricultural leftovers that have been considered as suitable sustainable alternative building materials.

Thermal Insulator

Effective thermal insulation is crucial in buildings exposed to external heat, and natural fibers have emerged as promising materials for this application. Research has demonstrated the potential of sugarcane and oil palm empty fruit bunch (OPEFB) fiber as wall thermal insulation, highlighting their ability to decrease the rate of heat transfer between surfaces with different temperatures [65]. Additionally, studies have shown that high lignocellulose and natural fiber content can be utilized as thermal insulation materials in building walls and roofing, with a decrease in thermal conductivity value observed as the amount of fiber increases [66]. Moreover, the use of natural fibers and agricultural lignocellulosic materials as bio-aggregates to create bio-based insulating concretes has gained significant attention in recent research. Various studies have investigated the thermal and acoustic performance of natural fibers, including sugarcane bagasse waste (SBW) and agricultural leftovers such as palm leaves and wheat straw fibers [67-69]. Furthermore, the development of thermal insulating materials based on natural fibers has shown promising results, with thermal conductivity values ranging from

0.045 to 0.065 W/mK and acoustic absorption coefficients of 0.6 for frequencies above 900 Hz [69-70].

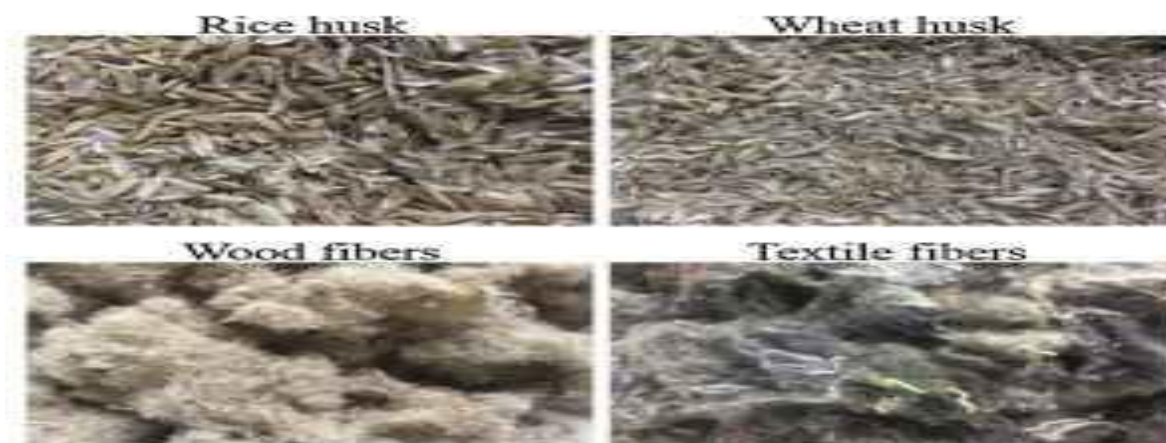


Figure 5. Selected Husks and Fibers for The Composite Processing [70].

The composite processing steps are shown in Fig. 6. Prior to prepare the composites, rice husk, wheat husk, wood fibers and textile fibers were dried in an oven at 80 °C overnight to eliminate moisture. The Ecovio® (15% by weight) was dissolved in chloroform (CHCl₃) at room temperature, and the dissolved Ecovio® in CHCl₃ was used as a binder for the selected husks and fibers to perform composites.

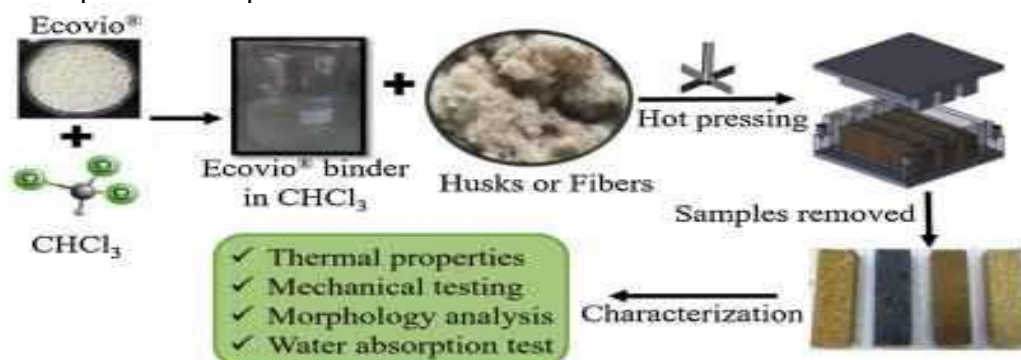


Figure 6. Composites Processing Steps [70].

Saturation is quite reached after 2 h of immersion due to a high absorption kinetics [71]. Nevertheless water absorption of prepared composites remains much lower than those of particle board composites prepared from corn cob, saw dust, and larch bark [72]. Unlike rice husks and textile fibers composites, the composites prepared with wood fibers and wheat husks showed obvious cracks after 24 h immersion in water (Fig. 7). The observed cracks are due to the swelling behaviour of the fibers/husks in the presence of water (Akinyemi et al., 2016; Kain et al., 2014) besides poor bonding between the fibers/husks and Ecovio® and insufficient binder content in the resulting composites. The high-water absorption nature of the composites is inconvenient because it leads to high shrinkage and swelling after long time exposure to water [73].



Figure. 7. Appearance Of the Prepared Composite Samples Before and After Water Absorption Test [70].

Ceiling Tiles

Natural fibers, a significant component of global agro-waste, have been repurposed to minimize environmental degradation. Researchers have successfully utilized wool and coconut coir to create gypsum ceiling tiles, leveraging their biodegradable and low-cost properties [74]. These natural fibers have been shown to enhance the structural qualities of gypsum-based ceiling tiles, addressing issues with moisture resistance and acoustics. Furthermore, studies have investigated the acoustic, mechanical, and thermal properties of composites made from various agricultural leftovers, such as rice husks, vine pruning, and cork, using acrylic resin [75]. The results demonstrate promising thermal resistance and acoustic absorption coefficients, highlighting the potential of these sustainable materials for green building applications, as illustrated in the process flow depicted in Fig. 8 [64].

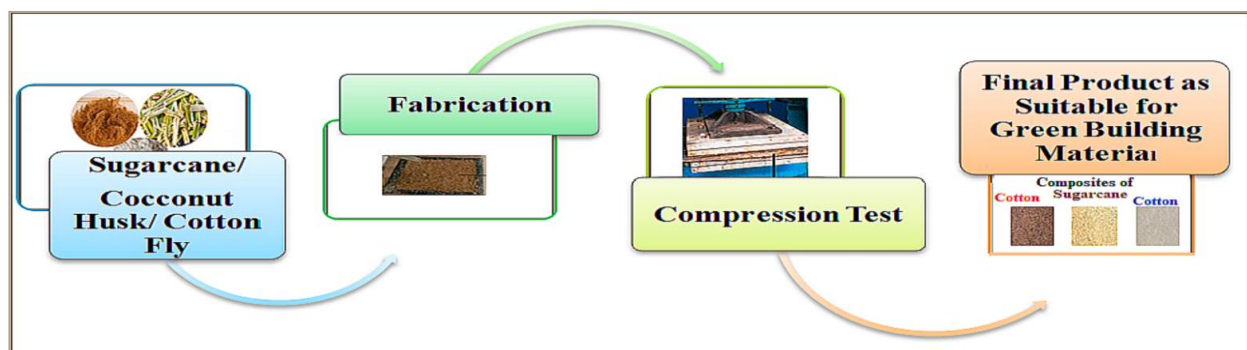


Figure 8. Green Building Materials' Sustainable Product Development Process Flow [64].

Fiber Reinforcement

The construction industry's increasing demand for sustainable development has driven research into alternative building materials. Natural fibers, such as coconut coir and sisal fiber, have been investigated for their potential to enhance the mechanical properties of concrete [76]. Studies have shown that the optimal proportion of coconut coir fiber to add to concrete is 1.5%, which improves its ductility and strength. Additionally, wrapping with sisal fiber has been found to increase load-bearing capacity. The effects of natural fiber reinforcement on the

mechanical characteristics of concrete have also been documented [77]. Research has explored the use of Masson Pine Needle Fiber (MPNF) to improve concrete's mechanical properties, demonstrating its potential as a sustainable reinforcement material. The search for sustainable alternatives to steel reinforcement has led to increased interest in natural fibers. Sisal fiber, in particular, has been studied for its potential as a reinforcement material [78]. Research has also investigated the autogenous self-healing potential of ultra-high-performance fiber-reinforced concrete (UHPFRC) [79]. Furthermore, natural fiber composite plates have been explored as a cost-effective and sustainable alternative to carbon fiber-reinforced polymer (CFRP) laminates and steel plates for shear strengthening of concrete beams [64]. Experimental results have shown that beams reinforced with composite plates made of natural fibers exhibit superior ductility and failure loads compared to CFRP laminates.

2.1. Reinforcement Material For Building

Agro-wastes have been utilized in the production of building reinforcement materials, leveraging their lightweight properties. Research has shown that combining clay and agricultural waste from grape seeds and wine less can result in lightweight bricks [83]. Similarly, studies have demonstrated that concrete panels made using groundnut shells as aggregate substitutes exhibit reduced compressive strength, making them unsuitable for heavy structural applications [80]. Additionally, building insulation composites made with fibers from barley and wheat straw have been found to be naturally lightweight [84]. The use of vegetable fibers as reinforcement in cement-based materials has also been explored, with research showing improved durability and other characteristics [85]. For instance, concrete beams reinforced with bamboo rebars, a substitute for vegetable fiber, have been investigated, as shown in Figure 6.



Figure 9. Concrete Beams Reinforced with Bamboo Rebars: (A) Finished Reinforcement, (B) The Setup [85]

Benefits and Drawbacks of Using Agricultural Waste for Building Materials

Many benefits and drawbacks are noted based on the thorough analysis of the various building materials made from agro-waste, as previously discussed in the sections. For instance, The

utilization of agro-waste in the production of construction materials offers numerous benefits, categorized into two primary groups: environmental benefits and advantages in the production of construction materials. Repurposing agro-waste addresses environmental issues associated with traditional disposal methods, reduces the need for non-renewable resources, and preserves the environment by decreasing energy consumption [5, 14]. Additionally, agro-waste-based construction materials have been shown to be cost-effective, lightweight, and of high quality, meeting predetermined construction guidelines [87, 88]. The use of agricultural wastes as insulation materials has also demonstrated superior mechanical resistance and insulation qualities, promoting economic and social sustainability. Overall, the production of construction materials from agro-waste offers three primary benefits: social, environmental, and economic sustainability, providing maximum quality and comfort while reducing energy consumption and environmental impact [14].

Despite the benefits of using agro-waste in construction materials, several challenges have been identified. One major drawback is the lightweight nature of the materials, limiting their use to specific structural applications [14]. For instance, bricks made from clay, sugarcane bagasse ash, and rice husk ash can only be used in situations where buildings require reduced structural loads [88]. Additionally, the requirement for advanced manufacturing capabilities and pre-processing stages for certain agro-wastes can be costly and time-consuming [85, 90]. The creation of sustainable building materials has also been associated with difficulties, including the lack of instructions on combining agro-waste with conventional materials [14]. Furthermore, pre-processing treatments, such as alkali treatment or burning, may be necessary to produce ash that can be combined with traditional materials [91].

Result and Discussions

The world's population is projected to reach 9.7 billion by 2050, putting immense pressure on resources such as wood, steel, aluminum, and cement, and driving up construction costs. To address the growing shortage of construction materials and the challenges associated with disposing of agricultural waste, innovative approaches to sustainable building materials are necessary. Agricultural waste has shown promising prospects for use in building construction, with studies demonstrating its viability and adherence to industry standards [85]. The use of natural fibers like wheat and barley straw for reinforced bricks and the incorporation of crop leftovers into cement blocks are just a few examples of the potential applications of agricultural waste in construction.

Despite the opportunities presented by agricultural waste, its integration with conventional materials poses implementation challenges due to the lack of defined methods and policies. Further research and real-world implementations are necessary to address these challenges and create long-term solutions in the construction sector. An extensive analysis of agricultural wastes has revealed possibilities for the production of composite materials and concrete, including oil palm shell, coconut shell, waste oyster shells, and groundnut shell ash. To fully utilize the benefits of agricultural waste, ongoing research and development are necessary to overcome obstacles such as the lightweight nature of the material, complex manufacturing processes, and the lack of defined rules [85].

Conclusion and Recommendations

The utilization of agricultural waste materials, such as groundnut shell ash (GSA), in construction offers numerous benefits that contribute to a more sustainable and

environmentally friendly built environment. By reducing embodied energy and CO₂ emissions during construction, these materials can significantly lessen the environmental impact of building projects. Additionally, using agro-residues instead of traditional materials like cement and fine aggregate can result in cost savings, making building projects more economically viable. The thermal insulation qualities of materials made from agricultural waste can also lower building energy usage, reducing the strain on resources and mitigating climate change. Furthermore, these materials are often lightweight, making them suitable for applications where smaller structural loads are tolerated, and promoting more efficient and sustainable construction practices. Ultimately, the adoption of agro-waste materials in construction contributes to sustainable building methods, generates new revenue streams for farmers, and benefits society and the economy as a whole, while also promoting environmental management and resource conservation.

Future prospects for the utilization of agro-waste in building materials appear promising, yet further investigation is requisite to fully actualize their potential. The development and implementation of standardized regulations and guidelines are essential to facilitate the widespread adoption of these materials in conventional building practices. By establishing precise protocols and frameworks, the scalability and applicability of agro-waste-based building materials can be substantially enhanced, thereby contributing to a more sustainable and environmentally conscious construction industry.

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A BIBLIOMETRIC ANALYSIS OF STUDENT ENGAGEMENT IN LMS

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Abstract: *This paper provides an analysis of student engagement with the Learning Management System (LMS), highlighting the factors, challenges associated with student engagement and its impact on the teaching and learning process. To achieve this, the study analysed a dataset comprising 414 publications that were published between 2005 and 2024, obtained from the Scopus database, using bibliometrics, content analysis, and network approach methods. The results, analysed using VOSViewer, MS Excel, and Harzing's Publish or Perish software, revealed that student engagement with LMS is a vital area of study. The analysis identified various themes and highlighted limitations in the literature's growth while offering suggestions for further research. The study employed a combination of bibliometric, content, and network analyses to investigate student engagement with LMS.*

Keywords: *Bibliometric Analysis, Student Engagement, Learning Management System*

Introduction

Learning Management System (LMS) is a Web-based software used for asynchronous collaboration by managing reporting, tracking, documentation, and delivering educational courses or training programs (Raza, Qazi, Khan, & Salam, 2021; Balkaya & Akkucuk, 2021). LMS provide instructors and students with an online classroom that enhances and reinforces the learning experience. Typically, a standard LMS supports and increase the quality of learning by providing inclusive learning environment for academic progress with intervening structures that facilitate remote exchanges and collaboration (Dias & Dinis, 2014; Jung & Huh, 2019). Main advantage of LMS usage is the ability for online students to consistently track their performance (Nasser, Cherif, and Romanowski, 2011). Consequently, this ability allows online learners to become independent (Blau & Hameiri, 2010; Nasser et al., 2011; Strayhorn, 2010; Wood, Kurtz-Costes, & Copping, 2011).

Student engagement is a complicated phenomenon that is essential for supporting learning and development (Kahu, 2013). Nowadays, learning environment are being integrated with numerous forms of digital technologies such as LMS. In addition, students entering the learning environment might have digital literacy that is limited to engaging with entertainment technologies and games rather digital literacy to acquire knowledge and skills (Prior, Mazanov, Meacheam, Heaslip, & Hanson, 2016). Therefore, a complete understanding of the landscape where student engage with these technologies is important for designing adaptive, flexible learning environments. Eventually, this understanding will also help instructors prepare students with vital digital literacy skills to enhance their learning experience (Nkomo, Daniel, & Butson, 2021).

According to Henrie, Bodily, Manwaring, & Graham (2017), student engagement determines academic success across all learning contexts and strategies. This scenario is elevated in an e-learning environment because of the physical distance between instructors and students (Henrie et al., 2017). Learning environments that support student engagement can influence the learning process (Kahu, 2013) and eventually support retention (Lee & Choi, 2011; Waldrop, Reschly, Fraysier, & Appleton, 2019; Kim, Yang, Bae, Min, Lee, & Kim, 2017).

This paper aims to comprehensively map and graphically analyse student engagement with LMS from a bibliometric standpoint. It focuses on key topics, existing student engagement with LMS research dynamics, and future research potentials. This bibliometric study also aimed to identify the publication patterns and intellectual framework of this field. The research questions (RQs) that are addressed are as follows:

RQ1: What is the present state of student engagement with LMS?

RQ2: Which student engagement with LMS papers are the most important?

RQ3: What are the most popular themes in student engagement with LMS?

Methodology

The method conducted in this paper was bibliometrics which was the first proposed by Alan Pritchard (1969). To date, this approach was used to explore the published scholar relevant in a knowledge base (Zupic & Čater, 2015). Scopus, Web of Sciences and Google Scholar are the most popular sources of database in the academic community. The advantage of Google Scholar database is that this database had the strength in retrieving literature information. Meanwhile, Scopus database and Web of Sciences database had an advantage in evaluating the performance citation analysis (Falagas, Pitsouni, Malietzis & Pappas, 2008). Scopus was selected as a source to gather data for this study because the coverage of Scopus was broader than the one of Web of Sciences (Hallinger & Nguyen, 2020; Singh, Singh, Karmakar, Leta, & Mayr, 2021).

The term “learning management”, “learning management system” and “student engagement” were three main keywords in the search string. The initial query was inputted the advanced search form of Scopus at 14:30 Mei 30, 2024, was ((TITLE-ABS-KEY(" learning management" OR "learning management system") AND TITLE-ABS-KEY("student engagement")))). The search result yielded 414 documents. The data search process is shown in Figure 1.

Results

This study collected 414 documents from the Scopus database and the entries yielded authors' names, papers' titles, abstracts, keywords, year of publication, and cited references in plain text format, among other publishing metadata. Descriptive analysis was used to calculate data frequencies based on the total number of articles published, including the yearly trend, the most active journals, the most prolific countries, and the most prolific author in the research area. As for the citation analysis, data on citation metrics and most popular academic papers on the research topic were collected using Harzing's Publish or Perish software.

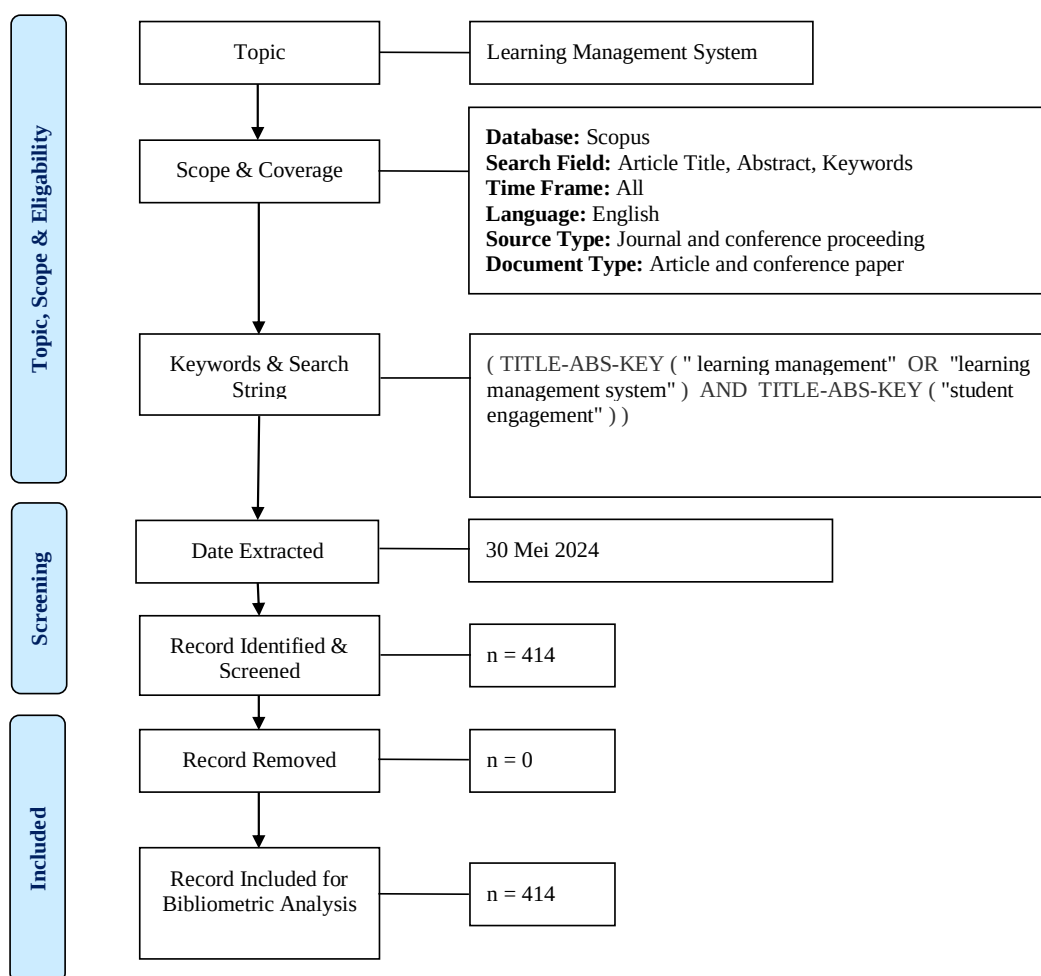


Figure 1. Flow Diagram of the Search Strategy.

Source: Zakaria, R., Ahmi, A., Ahmad, A. H., & Othman, Z. (2020) Worldwide Melatonin Research: A Bibliometric Analysis of the Published Literature between 2015 and 2019, Chronobiology International. <https://doi.org/10.1080/07420528.2020.1838534>

Modified from PRISMA (Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097)

In addition, analyses of co-authorship, bibliographic coupling, keyword co-occurrence, and citation were performed on bibliometric meta-data using VOSViewer software. For bibliographic coupling, the relationships of elements such as publications, journals and authors are determined according to the number of shared resources. The results of these analysis are presented in the form of a table or network visualization map.

Publication by Year

To address RQ1, the research trend based on the year of publication and total citation was monitored. Figure 2 shows the number of student engagement in LMS publications published each year between 2005 and 2024. The bar chart shows the growth pattern of total publications in the literature while the line graph shows the growth pattern of publications in the literature.

The figure shows that the study on student engagement in LMS is significant and relatively stable, ranging from 2 publications (2005) to 63 publications (2023). In addition, a steady growth on total publications was visible for the year 2024 as there was 20 publications for the first quarter of 2024 which surpasses the total amount of publications for the years 2005, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, and 2017.

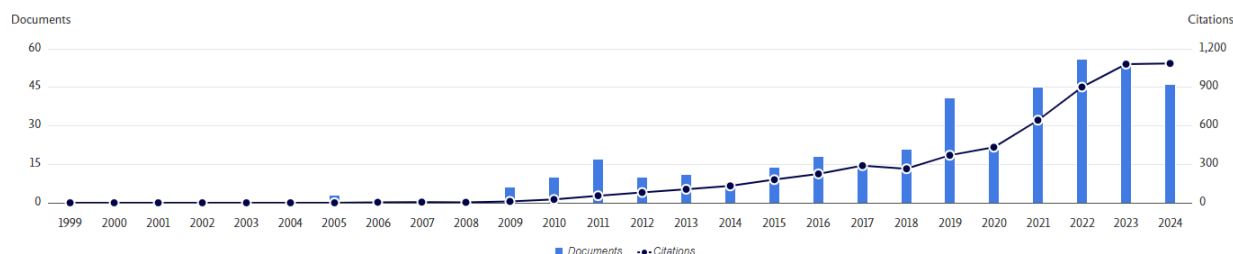


Figure 2. Total Publications and Total Citations by Year

There were two peaks in terms of total citation of publications between 2005 and 2024. The first peak depicts 1067 citations in 2010. The second peak in terms of total citation of publications was in 2020, representing 1258 citations. Using Harzing's Publish or Perish software, it was found that the first student engagement in LMS related publication was published in 2005 (see Coates, James, & Baldwin, 2005). The publication was about the potential impact of LMS on teaching and learning in universities based on Australian experience. This would be the very start of studies on student engagement in LMS publications later.

The first peak of total citation of publications in 2010 was mainly attained from three publications. The first with 757 citations was about harnessing the predictive power of LMS data to develop reporting tools that identify at-risk students (see Macfadyen, & Dawson, 2010). The second publication (117 citations) was regarding the indicators of engagement where LMS's ability to record and track user behaviour was utilized to captured data relating to student engagement (see Beer, Clark, & Jones, 2010). The final publication obtained 103 citations elaborated on the functionalities present in LMS to maintain student engagement among super-sized online class (see Nagel & Kotzé, 2010).

The second peak of total citation of publications happened in 2020 was mainly attained from a collection of publications. Two with the highest citations elaborated on student learning experience through blended learning over LMS (81 citations) (see Bouilheres, Le, McDonald, Nkhoma, & Jandug-Montera, 2020) and also on utilizing LMS learning analytics to describe student engagement and recommending a more productive forms of engagement (see Vytasek, Patzak, & Winne, 2020) with 35 citations

Citation Network Analysis

This study expected to identify the most significant publication based on RQ2 (Which are the most influential publications on student engagement in LMS?). Thus, in order to answer the RQ, a citation networks of 414 publications were examined.

To perform the centrality analysis of citations and construct a network visualisation map of the article's citations, the Harzing Publish or Perish and VOSViewer tools were used. Table 1 shows the citation metrics data for the publications. As for the 414 publications on student engagement in LMS, there were 5489 citations. The typical number of citations per year is

288.89, with each document receiving an average of 13.26 citations. This study found papers that had received the most references by using information from the Scopus database. From the 414 publications analyzed, only 26 papers are cited more than 50 times.

Table 1. Citations Metrics

Metrics	Data
Papers	414
Number of Citations	5489
Years	19
Citations per Year	288.89
Citations per Paper	13.26
Cites_Author	2331.62
Papers_Author	186.42
Authors_Paper	2.95
h_index	36
g_index	66

The network visualisation map was created and viewed using the VOSViewer software and the minimum number of document citations was set to 1. As a result, 296 papers out of 414 met the criterion and grouped into 10 clusters. Figure 3 depicts a network diagram of document citations. The publication entitled “Mining LMS data to develop an "early warning system" for educators: A proof of concept” written by L.P. Macfadyen and S. Dawson in 2010, is marked with the largest circle on the network visualisation map. This demonstrates that it is the most cited article in publications concerning the study topic.

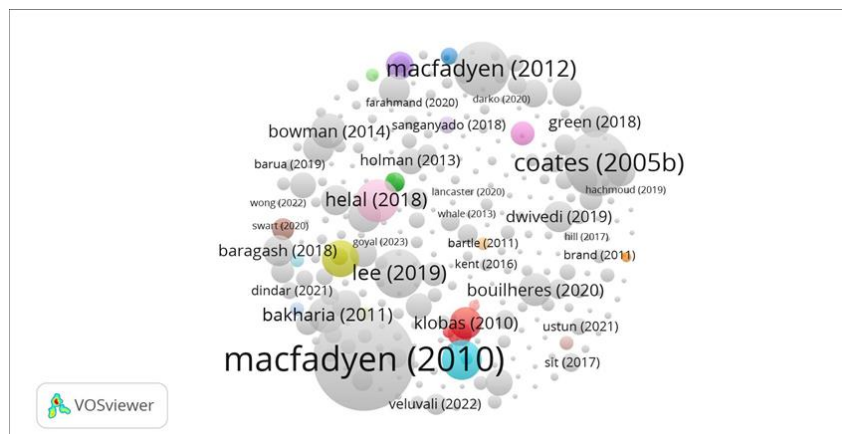


Figure 3. Network visualisation map of citations by documents

Keywords and Co-occurrence Analysis

In response to RQ3 (What are the most common academic topics on student engagement in LMS?), this current study aimed to determine the most frequently used keywords by researchers investigating on student engagement in LMS. Data frequencies of keywords employed in the research topic were calculated using MS Excel and the results are displayed in Table 2. “students” is the most frequently used keyword in student engagement in LMS

(188: 45.41%), followed by “learning management system” with 181 (43.72%) and “student engagement” with 179 (43.24%).

Table 2. Top keyword

Author Keywords	Total Publications (TP)	Percentage (%)
students	188	45.41%
Learning Management System	181	43.72%
Student Engagement	179	43.24%
E-learning	122	29.47%
Learning Systems	85	20.53%
Teaching	75	18.12%
Computer Aided Instruction	54	13.04%
Online Learning	54	13.04%
Education	51	12.32%
Blended Learning	46	11.11%
Learning Analytics	46	11.11%
Curricula	43	10.39%
Engineering Education	42	10.14%
Information Management	41	9.90%
Higher Education	40	9.66%
Engagement	29	7.00%
Learning Management Systems	29	7.00%
Online Systems	29	7.00%
LMS	28	6.76%
Education Computing	26	6.28%

This study also ran the keyword co-occurrence analysis using the VOSViewer software to build a network visualization map. Fractional counting was used and the minimum number of occurrences was set at two per publication. 161 keywords met the criterion out of 998. However, only 160 were related. Therefore, it was decided to create a network visualisation map that only showed the keywords related to each other. Figure 4 depicts a network visualisation map for the co-occurrence of the author’s keywords. The largest circle identified “student engagement” (89 occurrences) as the most often used keyword by writers in publications related to the research topic. Other primary keywords discovered were “learning management system” (68 occurrences), “learning analytics” (55 occurrences), and “blended learning” (53 occurrences).

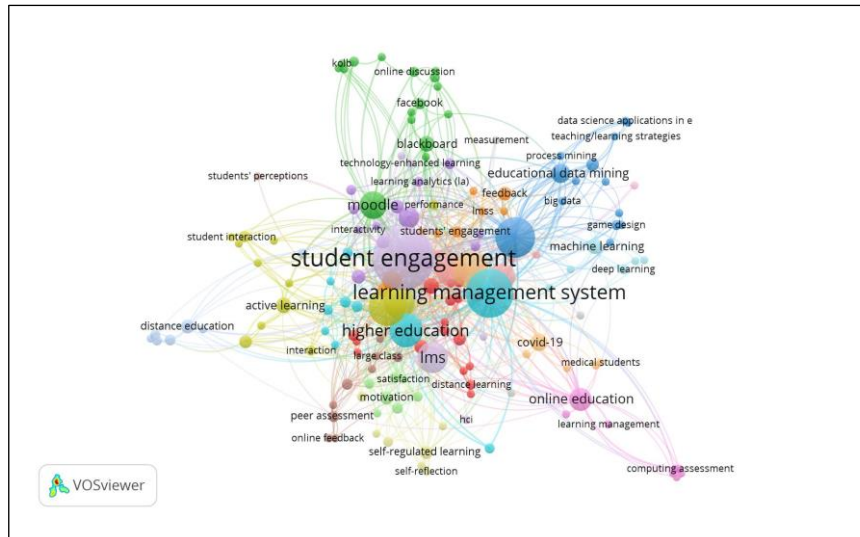


Figure 4. Network Visualisation Map for Co-Occurrence of Keywords

This study analysed the term co-occurrences of the title and abstract fields while reviewing the content of publications that focused on student engagement in LMS using the VOSViewer software. Binary counting was used and the requirement was that a term should appear at least five times in the title and abstract of articles. As a result, 536 terms met the criterion out of 8809 total terms. By default, the software considered 60% of the criterion noteworthy, resulting in 322 terms being declared relevant.

Findings and Future Areas of Research

This section summarizes the study's results and suggests potential areas for research. This study also identified challenges faced by current researchers investigating this topic. In the first phase, this study performed a quantitative analysis of the metadata to determine the publication outputs by years, different publication types and total citations. In general, apart from the sharp fall in 2020 due to Covid-19, the publications regarding student engagement with LMS (from 2005 until 2024) follows a steady and gradual growth pattern with a rapid rise stage between 2009 – 2011, a fluctuation stage between 2012 – 2019, and a step up stage in between 2021-2024.

However, it is remarkable that even during the sharp fall in 2020, publications managed to achieve a high total citation count at 1258 citations compared to other years and also compared to the first peak in 2010 with 1067 citations. Additionally, two of the publications that stood out in the list of top 20 highly cited publications was elaborating on student engagement during the Covid-19 pandemic (See Cardullo, Wang, Burton, & Dong, 2021; Alturki, & Aldraiweesh, 2021). These results suggest that Covid-19 also influence student engagement with LMS.

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APPLICABILITY OF MODERNIZATION THEORY IN COMMUNITY DEVELOPMENT IN MALAYSIA

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Abstract: *Community development in Malaysia begins with structured planning implemented at various agency levels. Planned development must consider the benefits that the community will receive in both the short and long term. Based on Modernization Theory, modernization in Malaysia started with the evolution from traditional sectors such as agriculture to more advanced sectors like industry or services. However, the application of Modernization Theory in Malaysia has remained under-researched. Therefore, this paper will explain the application of Modernization Theory in Malaysia in the context of community development. A better understanding will be obtained when this paper also explains the changes brought by the industrial revolution in Malaysia's development. Further research needs to be conducted to gain a clearer understanding of the theories used in Malaysia's development planning.*

Keywords: *Modernization Theory, Community Development, Industrial Revolution*

Introduction

Development is an activity or process aimed at enhancing the quality of life within a community. To ensure that the community reaps the benefits, the development process should be carried out systematically (Mohd. Karim & Sakdan, 2019). Development in an area plays a crucial role in ensuring that the local community benefits from it. The spillover effects of sustainable development can enhance the quality of life for the local population. Therefore, it is important to ensure that economic and social elements are considered in community development. Sustainable community development is seen as an appropriate method that can improve the quality of life for the community. The processes of evolution, functionality, and dissemination can impact society in ensuring that community development aligns with area development. The community needs to be involved in the development planned by the government. Development in an area is usually based on concepts and theories practiced by developed countries. Countries like Malaysia apply development theories that are suitable for the economic and social of the community in a particular area. Hence, Modernization Theory is used as a basis to ensure that planned and implemented development emphasizes economic and social elements (Gwynne, 2009). Modernization Theory explains that development needs to be carried out to improve the economy and the well-being of the people in a country (Black, 1977). Modernization Theory is a concept used to explain the process of development and transformation in societies. Modernization Theory aims to explain how societies can transition from traditional to modern states, focusing on economic and social development as key drivers.

Development that benefits the people can enhance the quality of life. The quality of life, as translated through community development, will certainly consider technological advancements as a measure of improvement. In line with technological progress, people in a country use various methods to obtain the latest information. With the development of the 4.0 industrial revolution, it has opened the eyes of society to practice and apply the latest

technology within society. Additionally, the use of technology such as Artificial Intelligence (AI) can improve the quality of life. Therefore, the community needs to be educated about the positive and negative impacts of AI usage.

In the context of technology use driven by the industrial revolution, community development in economic and social aspects aligns with Modernization Theory, which serves as the foundation for community development in Malaysia. Economically, the use of technology has led to improvements in quality of life, as seen through the increasing adoption of technology among the population. The integration of advanced technologies, such as automation and digitalization, has boosted productivity and efficiency in various sectors. This economic growth translates into better job opportunities, higher incomes, and improved living standards for the community.

Moreover, the readiness to embrace 5G technology is influencing contemporary lifestyles, reflecting technological advancements (Tasmin, Jea Yi, & Abu Bakar, 2023). The adoption of 5G technology is a significant step forward. It enables faster internet speeds, improved connectivity, and supports the development of smart cities. This technology influences daily life by enhancing communication, entertainment, and even transportation systems.

Technological progress following the industrial revolution has become a crucial economic driver for national growth. Countries that adopt these technologies will advance more rapidly compared to those that are not yet prepared to integrate technology into their national development (Koc & Teker, 2019). The widespread use of technology has enhanced access to information, education, and healthcare. For instance, telemedicine and online learning platforms have made these services more accessible, especially in remote areas. This contributes to a more informed and healthier society.

By understanding and addressing these aspects, Malaysia can ensure that technological advancements contribute positively to both economic and social development, in line with Modernization Theory.

Conceptualising Modernization Theory in Community Development *Modernization Theory*

Modernization Theory emerged as a foundational paradigm in development planning in the mid-20th century. This theory became prominent during a time when many countries were seeking ways to rebuild and develop after World War II. It provided a framework for understanding how societies could transition from traditional to modern states. The theory offers a deep perspective on how societies evolve from traditional conditions towards modernization. Modernization Theory examines the transformation of societies from rural to industrial and urban. It looks at various factors, including economic, social, and political changes, that contribute to this evolution. It suggests that all countries, regardless of cultural or historical background, will follow a similar development path. According to the theory, development is a universal process. It posits that all societies will undergo similar stages of development, moving from traditional to modern forms, driven by similar internal dynamics. The application of Modernization Theory has created conflicts among theorists. There has been significant debate about the validity and applicability of the theory. Some argue that it oversimplifies the development process and ignores the unique contexts of different societies.

Karl Marx explained that as nations developed, adopting a communist approach to governing, such as eradicating private property, would end conflict, exploitation, and inequality. Marx's perspective contrasts with Modernization Theory. He believed that true development could only be achieved through a classless society where resources are shared equally, eliminating the root causes of social issues. Modernization Theory is seen as a theory that evolves society from a rural society that is agricultural and traditional to an industrial and more modern society (Bradshaw, 1987; Escobar, 1995; Shrum, 2003).

Society relatively goes through the phases outlined in this theory. Society needs to go through these phases to reach the level of modernity and urbanization (Chiot & Hall, 2003). This theory is seen as a linear theory because the process that each phase goes through is a normal process in development.

The theory describes a series of stages that societies pass through. These stages include (Przeworski & Limongi (1997):

Traditional Economies: Predominantly agrarian with limited technology.

Transition to Takeoff: Initial steps towards industrialization.

Takeoff: Rapid growth and industrialization.

Drive to Maturity: Diversification of the economy and technological advancement.

Age of High Consumption: High levels of consumer goods and services.

Post Industrial Society: Advanced economies with a focus on services and information technology.

Modernization Theory emphasizes the resources available in the country to develop its socio-economics such as education, market-based economy and politics. Internal factors of the country are able to drive the development of the country. Political stability, the level of education of the community, market economy, entrepreneurship and investment are factors that determine the level of the country's economy. Modernization Theory does not focus on the challenges and opposition that occur at the level of globalization. The focus of this theory is only on the development process that occurs within the country and the internal factors that influence the development process (Shrum, 2003).

The theory suggests that economic development is essential for societal progress. It emphasizes industrialization, technological advancement, and increased productivity. Economic growth is seen as the cornerstone of development. Industrialization and technological innovation are crucial for increasing productivity and improving living standards. Modernization involves changes in social structures, including shifts from traditional to modern values, increased education, and improved healthcare. As societies modernize, they experience significant social changes. Traditional values may give way to more progressive ones, and there is typically greater access to education and healthcare.

Further, communities progress through specific stages of development, starting from traditional societies to modern, industrialized ones. The theory outlines a clear path of development that communities follow, moving from traditional, agrarian societies to modern, industrialized ones. The theory often draws on the experiences of Western countries, suggesting that developing nations can follow similar paths to achieve modernization. Modernization Theory is heavily influenced by the historical development of Western nations. It assumes that developing countries can replicate these experiences to achieve similar outcomes.

There is criticism among the theorists related to the theory of Modernization. Critics argue that the theory can be ethnocentric, overlooking the unique cultural and historical contexts of different societies. Critics point out that the theory may impose Western-centric views on development, ignoring the diverse cultural and historical backgrounds of different societies. This can lead to inappropriate or ineffective development strategies.

Community Development

Community development must align with community participation in the development process to achieve economic progress. Local community involvement, whether individually or in groups, is seen as a way to enjoy a better quality of life. Community involvement can impact community development through decision-making processes and the benefits derived from the development. Uphoff and Cohen (1980) argue that the development of an area should involve the community in development.

Previous studies have shown that community development is closely related to community participation in development projects. The researcher observes that successful community development implemented by the government is due to community participation in development projects, which can impact the local community. The concept of community participation is crucial in helping the government make decisions involving the community in a particular area. Flaws in decision-making have a significant impact on the community. Physical development not only involves a development location but focuses more on the development of the surrounding community. The community's needs in government-planned development are not only for the benefit of a particular group but for all levels of society as a whole (Mohd Karim & Sakdan, 2019).

Community development is not depicted in detail in Modernization Theory. However, when considering development in a particular area, it requires the involvement of all parties, including the community. Therefore, this paper explains community development in terms of applicability of Modernization Theory in Malaysia.

Applicability Of Modernization Theory in Community Development In Malaysia

Modernization Theory primarily focuses on internal socio-economic factors such as industrialization, technological advancement, and economic growth. It does not explicitly address the role of community participation in the development process. This omission has been a point of critique, as community development is crucial for sustainable and inclusive development. Effective development cannot be achieved in isolation. Community involvement ensures that development projects are tailored to the specific needs and preferences of the local. By involving the community in the decision-making process ensures that their voices are heard and their needs are addressed. This participatory approach helps in identifying priorities and designing projects that are more likely to be accepted and supported by the community. Community members can contribute to the implementation of development projects by providing local knowledge, labor, and resources. Their involvement can enhance the efficiency and effectiveness of project execution. Recognizing community members as key stakeholders in development projects ensures that they have a vested interest in the success of these initiatives. This can lead to greater commitment and cooperation from the community. Engaging the community in the development projects helps in assessing their impact and effectiveness especially in economic, social and politics (Mohd Karim, Mohamad Nizar, Md Darit, & Sakdan, 2019). Community feedback can provide valuable insights into what worked well and what needs improvement, facilitating continuous learning and adaptation. By

incorporating community participation into the development process, projects can become more inclusive, equitable, and sustainable. This approach addresses some of the limitations of Modernization Theory by emphasizing the importance of local involvement and context-specific solutions.

How Modernization Theory Works

To ensure that development has an impact on the community in a particular area, the government needs to involve the community in planning, decision-making, as partners assisting the government, and empower them to evaluate the implemented development. Effective development requires a collaborative approach where the government actively engages the community at every stage.

Therefore, in applying Modernization Theory to community development, this theory suggests that the transition from the agricultural sector to the industrial sector is achieved through the use of technology in agriculture, which will lead to the development of the agricultural sector. Modernization Theory advocates for the transformation of traditional economies into modern, industrialized ones. In the context of agriculture, this means that introducing advanced technologies such as mechanization, irrigation systems, and biotechnology to increase productivity and efficiency in agriculture can enhance the technology acceptance among the community. Further, agriculture becomes more productive, it can support the growth of related industries, such as food processing and agribusiness, leading to broader economic development. In spite of the technological enhancement in agriculture, the impact of modernization in one area led to the enhancement of economic, social and political impacts.

Appropriate technology for the relevant sector can increase the community's income and improve their quality of life. Higher productivity and efficiency in agriculture can lead to increased yields and profits for farmers, raising their standard of living. Improved agricultural practices can lead to better food security and nutrition, enhancing overall health and well-being. Exposure to and training in new technologies can build the community's capacity to innovate and adapt.

Additionally, the use of technology among the community can enhance their capabilities and skills in adopting current technologies. This includes the improvement of skill development. By providing education and training programs, it helps the community members learn how to use new technologies effectively. With the empowerment of technology, this will equip the community with the skills and knowledge needed to leverage technology for economic and social benefits.

Thus, through the use of technology and the changes brought about by Modernization Theory, it can provide opportunities for comprehensive community development. The integration of technology, as advocated by Modernization Theory, can drive holistic development by economic growth, social progress and sustainable development.

By applying Modernization Theory in a way that involves and empowers the community, development projects can achieve more significant and lasting impacts, leading to comprehensive and sustainable community development.

Modernization Theory in Developing the Community in Malaysia

Modernization Theory has significantly influenced community development in Malaysia, impacting economic, societal, and political aspects. In terms of economic impact, Modernization Theory emphasizes the transition from an agricultural economy to an industrialized economy. In Malaysia, this has been evident through the development of manufacturing and service sectors, which have significantly contributed to economic growth (Muhamad, Raja Ibrahim, Saputra, & Saat, 2021). The adoption of technology in agriculture has also improved productivity and income levels for rural communities (Muhamad, Raja Ibrahim, Saputra, & Saat, 2021). Further, technological advancements lead to the integration of modern technologies that has enhanced efficiency and productivity across various sectors. Economic modernization has also focused on improving energy efficiency, which is crucial for sustainable development. Policies aimed at reducing greenhouse gas emissions and promoting green technologies have been implemented to support this goal (Ong, 2020). In addition, the Modernization Theory is in line with the impact received by the surrounding community, especially in increasing the quality of life and increment of wages (Mohd Karim & Sakdan, 2019).

For societal impact, Modernization Theory highlights the importance of education in fostering a skilled workforce. In Malaysia, there has been a significant investment in education to improve literacy rates and technical skills, which are essential for a modern economy (Muhamad, Raja Ibrahim, Saputra, & Saat, 2021). The shift from rural to urban living has been a major societal change. Urbanization has led to the development of infrastructure, better access to services, and improved living standards (Aziz, 2005). However, it has also brought challenges such as urban-rural disparities and the need for sustainable urban planning (Ong, 2020). Modernization also has influenced cultural practices and social norms. While there has been a move towards more modern values, efforts have been made to preserve traditional cultures and integrate them into the modern societal framework (Muhamad, Raja Ibrahim, Saputra, & Saat, 2021).

In terms of political impact, Modernization Theory suggests that economic development leads to political changes, including the establishment of democratic institutions. In Malaysia, there has been a gradual shift towards more democratic governance, with increased political participation and reforms (Othman & Gunasaeran, 2022). The modernization process has contributed to political stability by promoting economic growth and improving living standards. Stable political conditions are essential for sustained development and attracting foreign investments (Othman & Gunasaeran, 2022). The government has implemented various policy reforms to support modernization, such as the Malaysia Madani pillar. Malaysia Madani emphasizes in focusing on fostering a sustainable, inclusive and prosperous community, These policies aim to reduce poverty, promote economic equity, and drive the nation towards high-income status (Othman & Gunasaeran, 2022). Whilst, good engagement between the government and the community needs to be improved so that development planning in an area runs smoothly. The public sector plays an important role in the development of an area (Mohd Karim & Sakdan, 2019a). Figure 1 illustrates the impact of Modernization Theory to the community in Malaysia. The

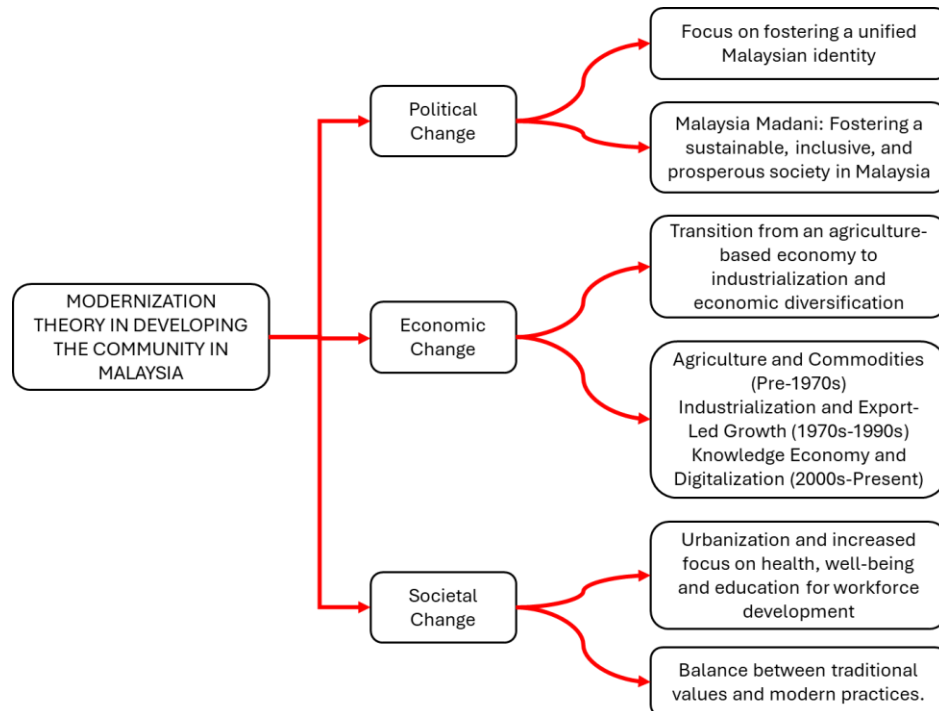


Figure 1. Top Three Changes Brought by The Modernization Theory in Developing the Community in Malaysia

Modernization Theory has provided a framework for Malaysia's development, emphasizing the importance of economic growth, social transformation, and political reforms. By focusing on these areas, Malaysia has made significant strides in improving the quality of life for its citizens and positioning itself as a competitive nation on the global stage.

Conclusion

This paper examines the applicability of Modernization Theory in community development in Malaysia. By aligning the principles of Modernization Theory with the pillars of Malaysia MADANI, it is possible to create a comprehensive framework for community development that is economically, socially, and politically sustainable. By addressing these aspects, a comprehensive understanding of how Modernization Theory has been applied in Malaysia, particularly in community development. It also highlights the significant role of the industrial revolution in shaping the country's development trajectory. This approach ensures that modernization efforts are inclusive, respectful of cultural values, and focused on long-term prosperity and well-being. Therefore, with the advancement of technology aligned with the industrial revolution, it stimulates balanced living standards based on knowledge and local wisdom, ensuring that development is sustainable and environmentally friendly.

To fully comprehend the impact and effectiveness of Modernization Theory and other development theories in Malaysia, more in-depth research is necessary. This includes case studies, empirical analyses, and comparative studies with other countries. Such research will provide valuable insights into the best practices and challenges in applying these theories to Malaysia's development context.

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SIMPLIFYING PKHEM ADMINISTRATION USING AN INTEGRATED WEB-BASED SCHOOL MANAGEMENT PLATFORM (SCHOOLHUB)

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Abstract: *The study aims to streamline the administration of “Perancangan, Kurikulum, Hal Ehwal Murid” (PKHEM) in schools by adopting a centralised, digital platform. PKHEM encompasses essential aspects of school management, including teachers’ work distribution, student affairs, and extracurricular activities. The current processes are time-consuming and prone to errors, which affects efficiency and communication between teachers, students, and parents. The study proposed SchoolHub as a web-based school management platform by integrating core PKHEM administrative tasks, such as attendance tracking, discipline management, teacher and student activity coordination, and academic performance reporting. The web-based management system is planned to reduce administrative burdens, enhance data accuracy, and ensure real-time access to information. The SchoolHub has a user-friendly interface to manage daily tasks, generate reports, and communicate important updates to students and parents. This study explores the SchoolHub development, implementation, and impact of PKHEM administration by evaluating its effectiveness in improving operational efficiency, reducing paperwork, and enhancing communication within the school ecosystem. The web-based solution is designed with scalability, security, and adaptability in mind, catering diverse needs of schools and contributing to overall educational excellence.*

Keywords: *School Management System, Student Affairs, Attendance Management Tracking, Discipline Report, RMT Management*

Introduction

Malaysia’s educational system has undergone significant changes under Vision 2020, emphasizing decentralization and school-based management. Ensuring high-quality data in the Education Management Information System (EMIS) is essential for making decisions and putting policies into action. Improving the administration of educational resources requires addressing problems with data accuracy and completeness (Hussein et al., 2017). The School Management System (SMS) is a part Malaysia’s educational system that aims to improve student performance and aligning with national development goals. The Ministry of Education Malaysia launched the SMS, also known as “Sistem Pengurusan Sekolah,” to provide schools with a centralized database that would lessen the burden of teachers, administrators, parents, and students (Nordin et al., 2014). Currently, the person responsible to manage the students affairs in school is known as “Penolong Kanan hal Ehwal Murid” (PKHEM)(Mutalib, 2013).

PKHEM oversees student affairs such as registration process, student attendance, disciplinary reports, textbook distribution and returns.

This study is focusing on the issues that were faced by PKHEM in managing students' affair daily at school as follows:

- a. Student data is stored in multiple document files —PKHEM usually download students' data from the APDM and SSDM system monthly and saved in Microsoft Excel file format. The files usually saved in various locations in the personal computer.
- b. Communication issues between PKHEM, Teachers, and Parents about the schools' affairs —Miscommunications between PKHEM, teachers, and parents are common, especially during textbooks distribution, parents plan to voice concerns to teachers, and parents have difficulties to meet PKHEM about their children's problems at school.
- c. Monitoring Students Attendance —There have been cases where students have skipped class without anybody noticing, and the teacher didn't find out until someone else brought it to their attention. The parents do not receive real-time information whether their children's are attending classes, and even the PKHEM is not aware of the incidents.

Therefore, schools must address these issues because successful policy implementation and decision making depend on the data accuracy which will improve the administration of educational resources (Mohamed et al., 2010). As technology develops, Malaysian schools must adapt to become learning institution that prioritize innovation and lifelong learning. The transition requires using new paradigms instead of traditional management approaches (Kumar and Uli, 2004).

Literature Review

The Malaysian Ministry of Education created the School Management System (SMS) (Sistem Pengurusan Sekolah) to ease the workload of educators and facilitate the integration of educational data. The Management Information System (MIS) is essential to the smooth operation of Malaysian schools (Nordin et al., 2014). AI applications such as personalized learning and automated grading, are being explored to streamline administrative processes and enhance teaching effectiveness (Ramalingam and Maniam, 2024). This approach aims to empower teachers and school managers, allowing for greater autonomy in decision-making and curriculum delivery (Malaysia, 2015). Currently, there is a few SMS that were developed by the Ministry of Education. The systems are as follows:

1. The "Aplikasi Pangkalan Data Murid" (APDM) was introduced to serve as a central online database for collecting, storing and managing student information, including personal details, and attendance records (Daud and Saad, 2013). Figure 1 displays the APDM login page, providing a secure user interface for accessing student-related information.



Figure 1: Aplikasi Pangkalan Data Murid

The teacher enters the student's identity card information into APDM for new student registration as shown in Figure 2. The system will match the data entered by teachers with the data in the system. The teacher only can register students in the classroom if the information matches. The system allows PKHEM to examine and access all student data. However, every day the class teacher is required to call out each student's name and the students will respond. The process flow of taking attendance in the class is shown in Figure 2 in shows the current procedure to manage the student's attendance. The teacher will use WhatsApp to contact parents if any of the students are missing. Then, the teacher is required to submit the attendance update information to APDM and at the same time the teacher will keep an attendance book to keep the absence reason submitted by the students. PKHEM can check attendance information and produce analysis reports for every class.

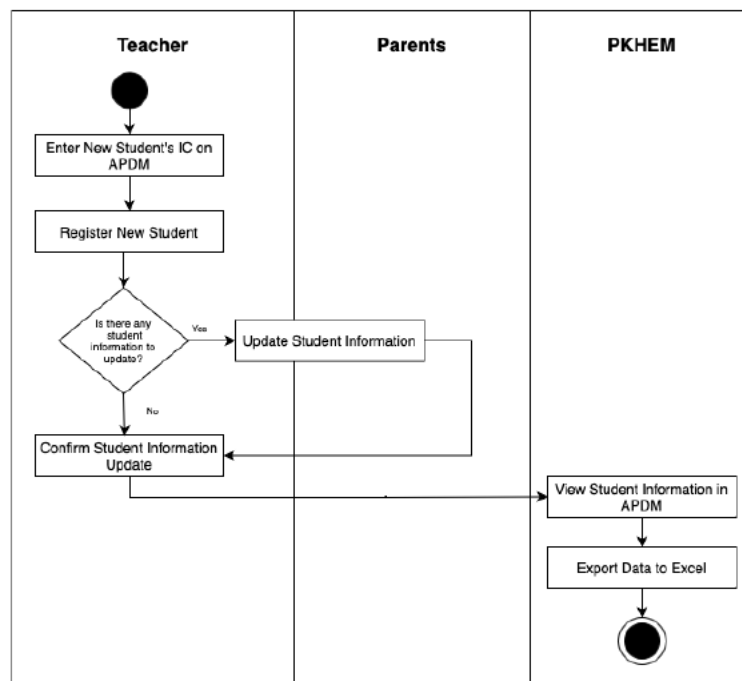


Figure 2: The Process Flow of Taking Attendance

- The “Sistem Sahsia Diri Murid” (SSDM) is a student personality system that uses a merit and demerit that is similar to incentives and penalties for monitoring and recording students’ disciplinary incidents in the school. In addition to managing student misbehavior occurrences, the SSDM system could keep track of student and school-related data and send out truancy warning letters (Zakaria, 2013).



Figure 3. SSDM interface

- The” Sistem Pengurusan Identiti” (idMe) is a system to manage teachers' and students' information under the Ministry of Education (MOE). However, idMe is still in the development and testing stage and a few features and functionalities are still not available.

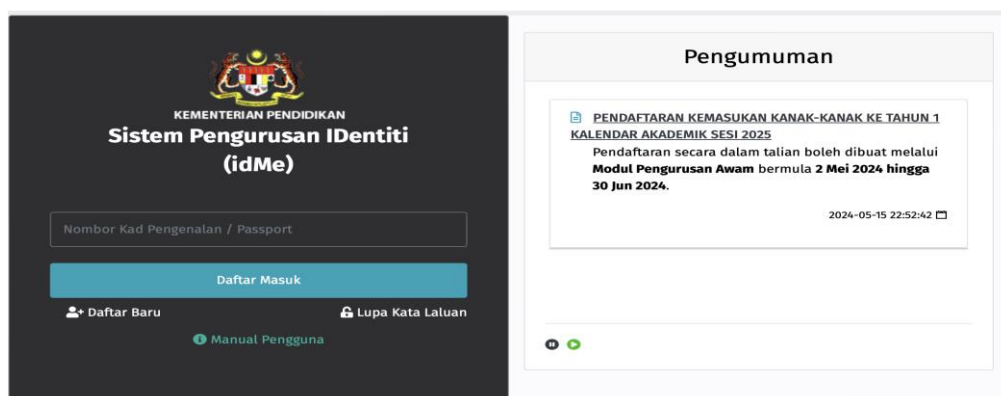


Figure 4: idMe interface

This study compared the MOE system that was implemented in school with the proposed PKHEM prototype system as shown in Table 1. Currently, the features in APDM, SSDM and idMe are not integrated and each system has different features. Therefore, PKHEM requires to access the three MOE systems to update the school information. This study suggested that the features in APDM, SSDM and idME should be integrated with the school level therefore, PKHEM could easily monitor the teachers' and students' affairs.

Table 1: Comparison of Current MOE system in Malaysia

No	Features	APDM	SSDM	iDME	Proposed Management System (SchoolHub)
1.	Web-based System	Y	Y	Y	Y
2.	Manage Student	Y	N	Y	Y
3.	Upload Data from External File	N	N	N	Y
4.	Manage Teacher's Information	Y	N	Y	Y
5.	Manage Teacher's Task	Y	N	Y	Y
6.	Manage Teacher's Specialty	N	N	N	Y
7.	Manage Teacher's Subject	N	N	N	Y
8.	Manage Subject	N	N	N	Y
9.	Manage Class	Y	N	Y	Y
10.	Manage Timetable	N	N	N	Y
11.	Manage Student Discipline Report	N	Y	Y	Y
12.	Manage Class Attendance	Y	N	Y	Y
13.	Manage Subject Attendance	N	N	N	Y
14.	Leave Application	Y	N	Y	Y
15.	Manage Appointment	N	N	N	Y
16.	Manage PKHEM's Task Schedule	N	N	N	Y
17.	Manage Textbook Distribution and Return	Y	N	N	Y
18.	Manage RMT	Y	N	N	Y
19.	Manage Feedback	N	N	N	Y
20.	Manage Parents Information	N	N	N	Y
21.	Manage Announcement	N	N	N	Y

Methodology

The Agile Model (RAD) methodology was adopted in the development of SchoolHub management system for SK Bandar Tun Razak 2. RAD consists of six phases: Plan, Design, Develop, Test, Deploy and Review. Each phase is discussed in detail as follows:

1. Plan —This study aims to comprehend the difficulties with MOE system process flow that PKHEM, educators, parents, and students encounter. This involves looking at the existing practices, inefficiencies, and communication gaps. APDM, SSDM, and iDME are the three MOE systems that are being studied. These systems have different features and usually PKHEM require to extract and update data into the three systems.
2. Design —The overall concept of the suggested system design architecture is customized according to the users' requirements. Figure 5, shows the use case diagram of the SchoolHub proposed system. Through close collaboration with PKHEM, educators, and parents, the design concentrates on the most crucial features. PKHEM usually extract data from the teachers that aims to help teachers in their day-to-day work with the students' affairs. Parents will also receive up-to-date information about their children from the schools and teachers, and both parties can monitor on the students' progress and activities. PKHEM could also extract report from SchoolHub management system and update the latest data in the three MOE system.

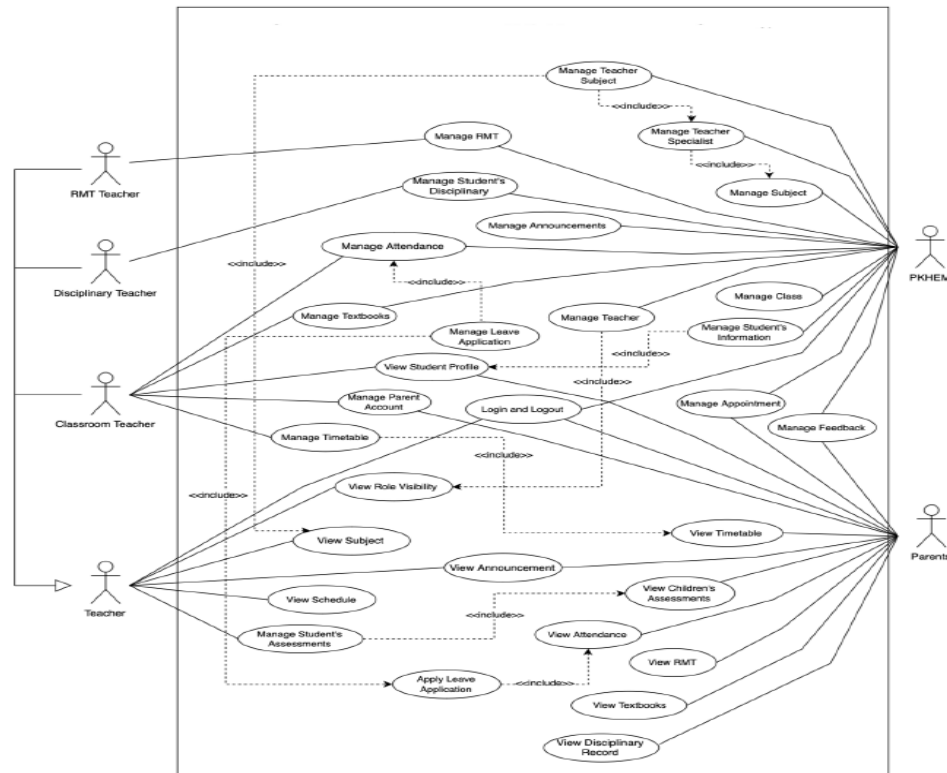


Figure 5: Use Case Diagram

3. Develop —The stakeholder of the SchoolHub Management System consists of five main users: PKHEM, teacher, parents and students as shown in figure 6. The system allows all the users to access through a web portal. The system prototype was developed using PHP, Javascript, HTML, CSS, Bootstrap and MySQL database.

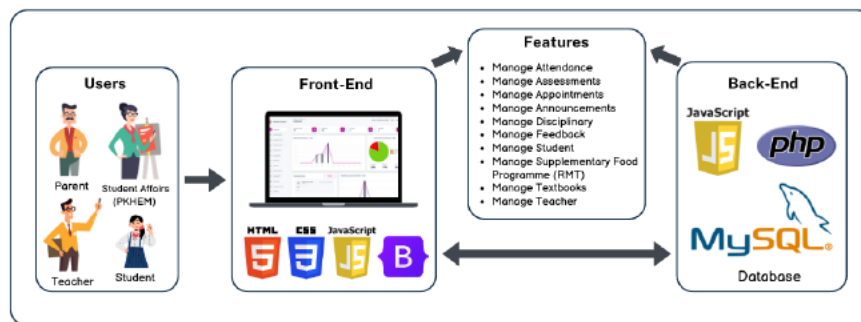


Figure 6: System Architecture

4. Test —The developed system undergoes testing at different levels. Unit testing is performed on individual modules, system testing verifies the system as a whole, and user acceptance testing involves testing the system with PKHEM and stakeholders to ensure the system meets requirements.
5. Deploy —The system deploys the PKHEM management system focusing on a few features as follows:
 - a. Students Attendance —The class teacher verifies the students' attendance and looks for

parents leave requests. Parents and the class teacher can monitor the attendance status for each subject, and teachers can also take attendance for their subject classes. The attendance records of the students are available for PKHEM to examine as shown in figure 7.

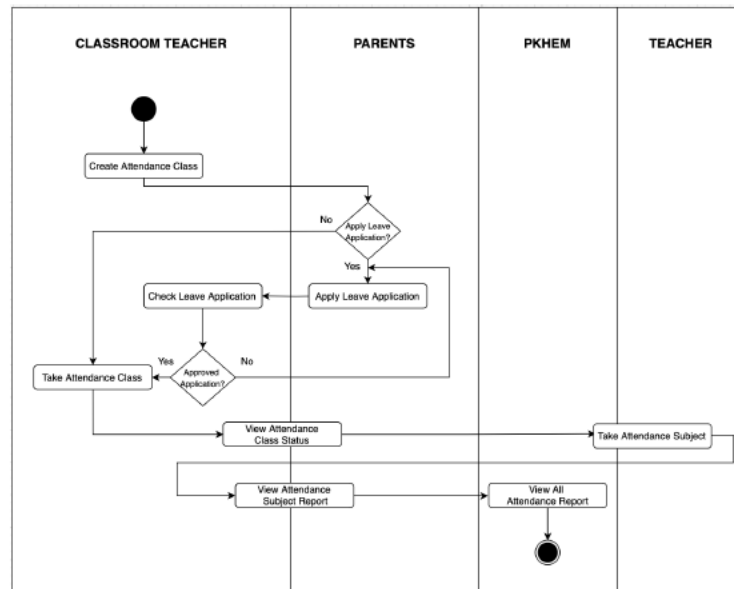


Figure 7: Class Attendance

b. Students Disciplinary report —The teacher would fill in the form if there is a disciplinary case. The discipline teacher and PKHEM would review the case. Parents can get updated information regarding their children's disciplinary records as shown in Figure 8.

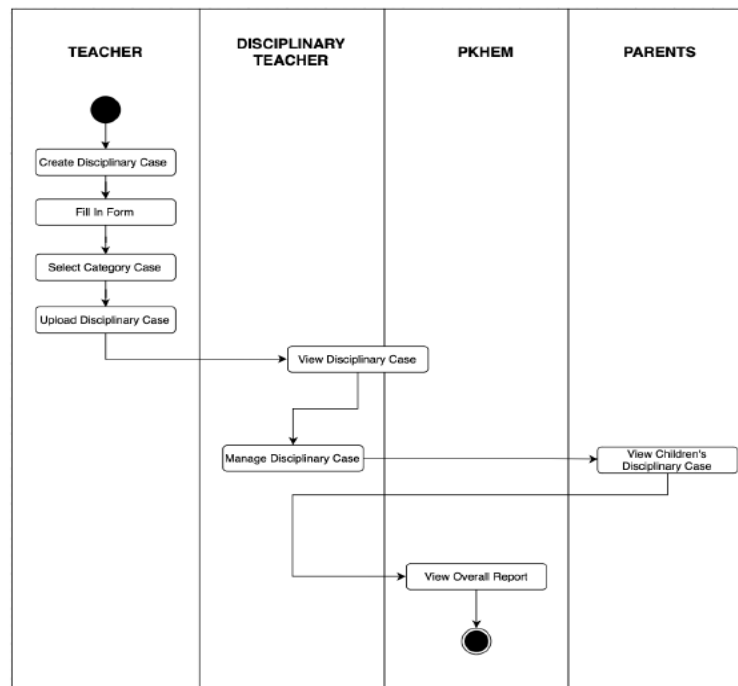


Figure 8: Disciplinary Cases Process Flow

- c. School feeding program —School feeding program also known as” Rancangan Makanan Tambahan” (RMT) is one of the program initiated by MOE. Usually, PKHEM would assign a teacher to monitor the students who will receive RMT from the school. Parents would also be informed on their children RMT status as shown in Figure 9.

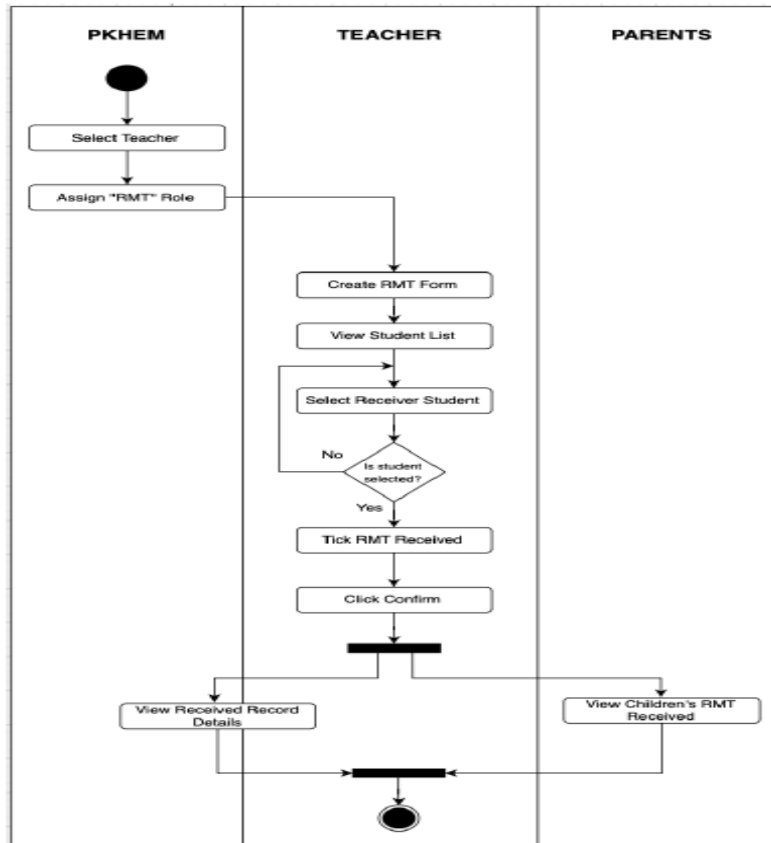


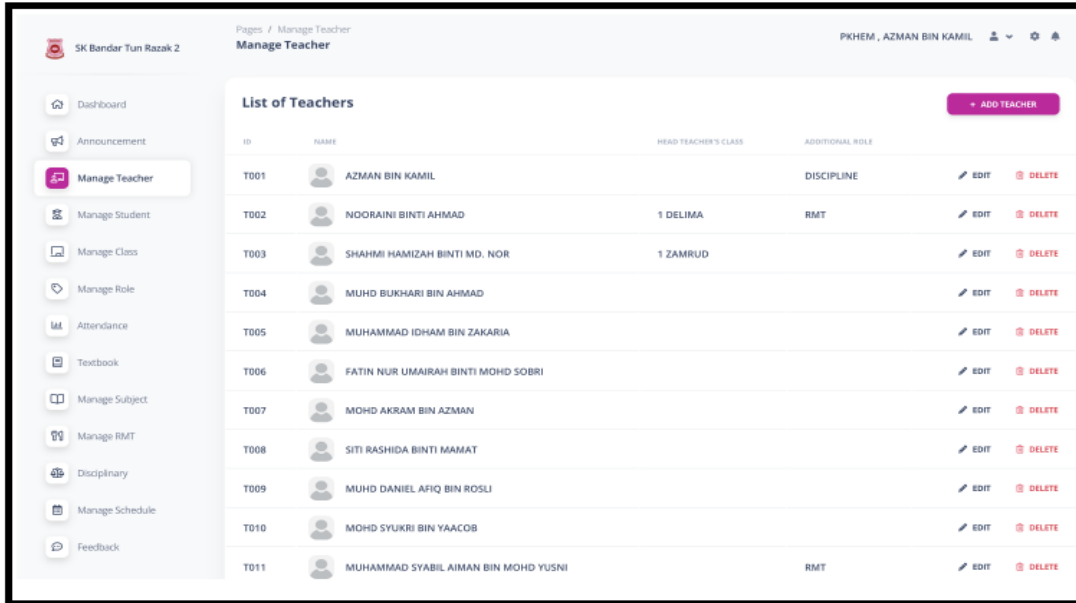
Figure 9: RMT Flow Process

6. Review —The PKHEM management system prototype was review by the stakeholders is actively gathered to measure user satisfaction and identify areas for enhancement. Iterative improvements and updates are planned to ensure the prototype is follow the users requirements

Results Prototype

This section discussed a few of the user interface of the SchoolHub prototype management system. The user of the SchoolHub management system are PKHEM, teachers, parents and students. The users can access the systems when they login to the system.

The PKHEM for SchoolHub interface is shown in figure 10. The interface allows PKHEM view the teachers' information and can assign the teachers class, teachers duty, assign subject to teachers and related duties to the teachers.



ID	NAME	HEAD TEACHER'S CLASS	ADDITIONAL ROLE		
T001	AZMAN BIN KAMIL		DISCIPLINE	EDIT	DELETE
T002	NOORAINI BINTI AHMAD	1 DELIMA	RMT	EDIT	DELETE
T003	SHAHMI HAMIZAH BINTI MD. NOR	1 ZAMRUD		EDIT	DELETE
T004	MUHD BUKHARI BIN AHMAD			EDIT	DELETE
T005	MUHAMMAD IDHAM BIN ZAKARIA			EDIT	DELETE
T006	FATIN NUR UMIRAH BINTI MOHD SOBRI			EDIT	DELETE
T007	MOHD AKRAM BIN AZMAN			EDIT	DELETE
T008	SITI RASHIDA BINTI MAMAT			EDIT	DELETE
T009	MUHD DANIEL AFIQ BIN ROSLI			EDIT	DELETE
T010	MOHD SYUKRI BIN YACOB			EDIT	DELETE
T011	MUHAMMAD SYABIL AIDAN BIN MOHD YUSNI		RMT	EDIT	DELETE

Figure 10: PKHEM interface

PKHEM can view the teacher's class and at the same time can view the students' attendance update by the class teachers.

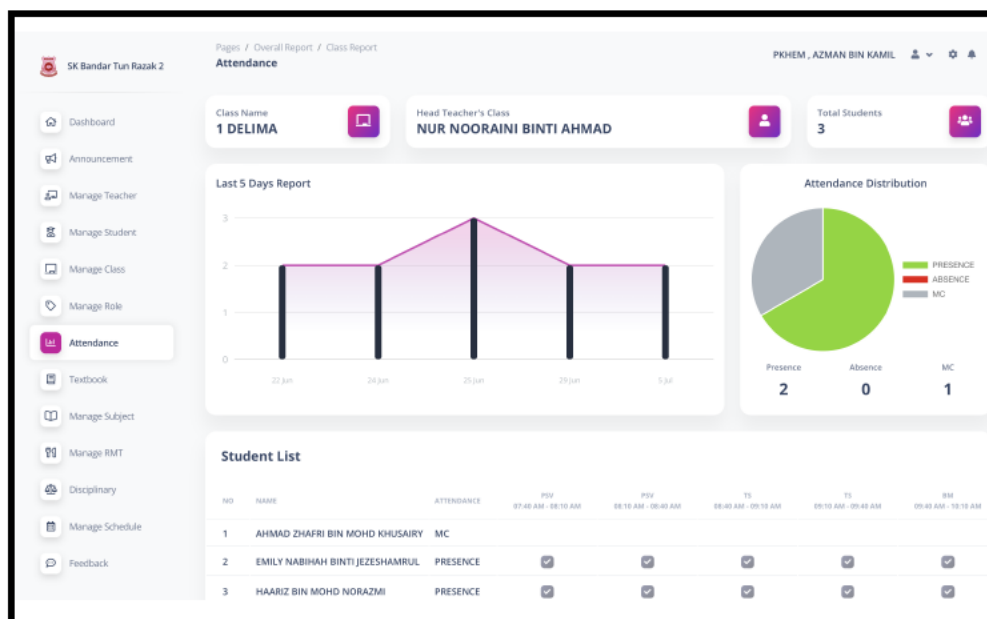


Figure 11: Attendance Management System

PKHEM can view the students disciplinary cases reported by teachers. PKHEMs can create new reports using the "Create New Report" button and review cases by pressing the "View" button. The interface also allow PKHEM access to the Student Disciplinary List for Disciplinary Teachers PKHEM can view their schedule, including meetings and appointments with parents, categorized by month, week, and day.

The system also allows the PKHEM to add new entries by entering a title, description, and selecting the category as either "Meeting" or "Set Appointment" as shown in Figure 13.

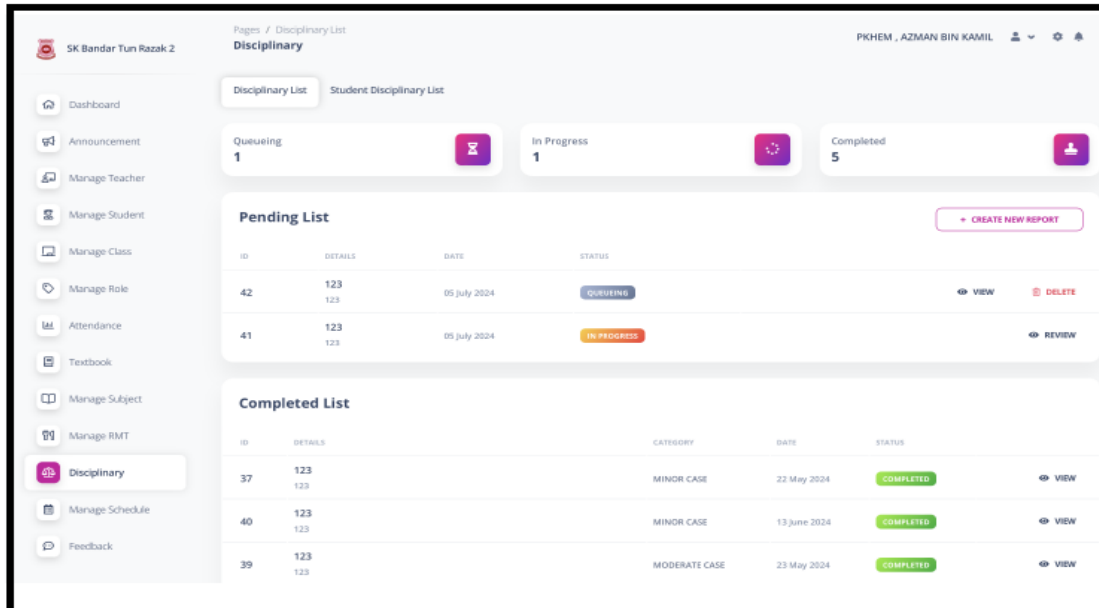


Figure 12: PKHEM View Discipline Report

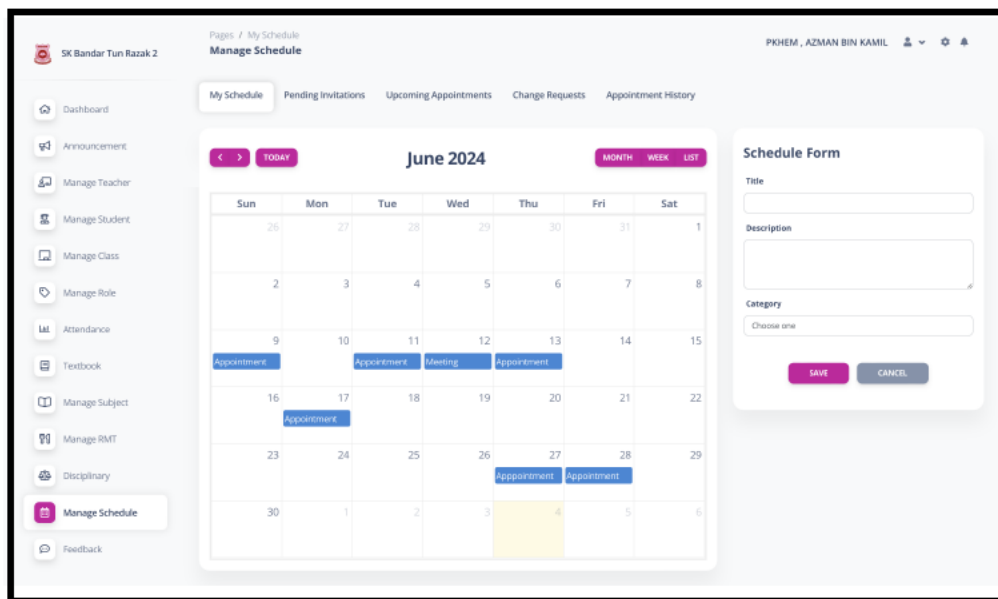


Figure 13: Schedule Appointment

Conclusion

The prototype development of the School Hub Management System at SK Bandar Tun Razak 2 project has provided invaluable insights and practical experience in creating practical solutions for PKHEM, teachers, students and parents. This study serves as a prototype for enhancing administrative efficiency and improving overall school management practices, fostering continuous advancement in educational technology solutions.

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TEXTURAL AND MOISTURE OPTIMIZATION IN GLUTEN-FREE DUMPLING SKINS: THE ROLES OF PROTEIN CONTENT AND GELATINIZATION

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Abstract: *This study explores how to improve the texture and moisture properties of gluten-free dumpling skins by examining the impact of protein content and starch gelatinization. Four different formulations were created with varying proportions of tapioca flour (TF) and sweet potato flour (SPF): 100% TF (control), 70% TF and 30% SPF (F1), 50% TF and 50% SPF (F2), and 90% TF and 10% SPF (F3). The texture and moisture characteristics were assessed using a Texture Analyzer, the Kjeldahl method, and the oven-drying technique. To analyze thermal properties and functional groups, Differential Scanning Calorimetry (DSC) and Fourier Transform Infrared Spectroscopy (FTIR) were employed, while statistical correlations were calculated using SPSS software. The results indicated that formulations F1 and F2 had better texture and elasticity compared to the control and F3, closely mimicking traditional wheat-based dumpling skins. The findings emphasize the important roles of protein content and gelatinization in achieving the desired texture and moisture retention. This study concludes that by optimizing the flour ratio and gelatinization conditions, it is possible to create high-quality gluten-free dumpling skins that cater to the growing demand for gluten-free options in the food industry. Future research should investigate the effects of additional ingredients and processing methods on dough quality.*

Keywords: *Gluten Free, Protein Content, Starch Gelatinization*

Introduction

The demand for gluten-free food products has risen significantly due to growing awareness of gluten-related disorders such as celiac disease and gluten sensitivity, alongside the increasing popularity of gluten-free diets among health-conscious consumers (Hou & Kruk, 2016). Among such products, dumplings are a staple enjoyed across various cultures, but replicating their characteristic texture and structural integrity without gluten remains a major challenge. Gluten is crucial for providing elasticity and cohesion in traditional wheat-based dough, and its absence in gluten-free formulations necessitates innovative approaches, including the use of alternative flours and specialized processing methods (Mason & Pomeranz, 2020).

Tapioca and sweet potato flours have been identified as promising alternatives in gluten-free formulations due to their high starch content and functional properties (Lee et al., 2017). However, producing gluten-free dumpling skins that match the sensory and structural qualities of their wheat-based counterparts requires further optimization. Textural attributes like elasticity, firmness, and moisture retention are critical for dumpling skins, as they directly

impact their handling, cooking behavior, and overall consumer acceptance (Rao & Raghavan, 2022).

Protein content has emerged as a key factor in determining the quality of gluten-free doughs. Unlike gluten proteins, which contribute to the viscoelastic properties of wheat doughs, proteins in alternative flours interact differently with starch, influencing cohesiveness, elasticity, and firmness (Hou & Kruk, 2016). Studies suggest that higher protein levels in gluten-free formulations can improve dough handling and texture (Lee et al., 2019). However, the precise mechanisms of protein-starch interactions in gluten-free dumpling skins made from tapioca and sweet potato flours remain underexplored (Rees, 2018).

The gelatinization process further plays a vital role in the moisture retention and texture of gluten-free dumpling skins. Gelatinization involves the swelling and disintegration of starch granules as they absorb water and release amylose, which forms a gel-like matrix that determines the dough's structure and consistency (Kaur et al., 2021). Variations in starch types, water content, and processing conditions can significantly affect gelatinization behavior, leading to inconsistencies in product quality. Despite its importance, the link between gelatinization conditions and the final texture of gluten-free dumpling skins remains unclear (Gallagher et al., 2004; Marco & Rosell, 2008).

This study seeks to address these challenges by investigating the interaction between protein content, starch composition, and gelatinization in gluten-free dumpling skin formulations. By focusing on tapioca and sweet potato flours, the research aims to optimize textural and moisture properties, ensuring a consistent and high-quality product. These findings will provide valuable insights for developing gluten-free dumpling skins that align with consumer preferences and dietary needs, while also advancing the broader understanding of gluten-free dough science (Repo-Carrasco-Valencia & Vidaurre-Ruiz, 2019; Schuster et al., 2022).

Such research is vital not only for individuals with gluten-related dietary restrictions but also for addressing the growing demand for health-conscious food innovations, contributing both to scientific progress and practical food industry applications.

Literature Review

Dumpling

Dumplings, originating from ancient China, are globally recognized and cherished, with various cultural adaptations. Traditional dumpling skins rely on gluten for their elasticity and structural integrity. However, creating gluten-free versions presents significant challenges, requiring alternative flours and binding agents like tapioca and sweet potato starches. These starches mimic gluten's structural role by gelatinizing during cooking, forming a gel-like matrix that contributes to texture and moisture retention (Wang, 2017; Bach et al., 2018).

Texture and Moisture Retention

The interaction between starches and water during gelatinization is pivotal in developing the elasticity and cohesiveness of gluten-free dumpling skins. Tapioca starch, with its high water-binding capacity and lower gelatinization temperature, forms an elastic gel that improves dough pliability. Sweet potato starch, on the other hand, gelatinizes at higher temperatures, resulting in firmer textures and enhanced nutritional profiles due to its β -carotene content (Hsieh et al., 2018; Liu et al., 2020). The balance between these starches significantly impacts textural

properties, with optimal ratios ensuring elasticity and moisture retention while preventing dryness or sogginess (Xu et al., 2021; Mauro et al., 2023).

Starch Gelatinization

Gelatinization, the process by which starch granules absorb water, swell, and release amylose, is critical for creating cohesive gluten-free doughs. Proper management of temperature, hydration, and starch ratios ensures a consistent gel structure, which is essential for maintaining dough integrity during cooking. Tapioca starch contributes to a tender and elastic consistency, while sweet potato starch adds resilience and chewiness. Adjusting gelatinization parameters can fine-tune these properties to closely resemble those of traditional wheat-based skins (Chakraborty et al., 2022; Ratnayake & Jackson, 2006).

Role of Protein Content

Protein content significantly influences the texture, elasticity, and moisture retention of gluten-free dough. Proteins in tapioca and sweet potato flours interact with water and starch to form a supportive network, enhancing cohesiveness and pliability. Although these proteins cannot fully replicate gluten's viscoelastic properties, adding plant-based proteins or hydrocolloids can improve the dough's elasticity and handling characteristics (Horstmann et al., 2017; Cappelli et al., 2020). An ideal protein-to-starch ratio is critical to achieve a tender yet sturdy texture, preventing the dough from becoming brittle or overly sticky (Padalino et al., 2016; Mauro et al., 2023).

Innovations and Practical Applications

Recent advancements, such as the incorporation of hydrocolloids and fermentation techniques, offer promising avenues for enhancing gluten-free dumpling skin formulations. These methods improve moisture retention, texture, and nutritional profiles, making gluten-free products more appealing to health-conscious consumers (Encina-Zelada et al., 2018; Haddad et al., 2019).

In conclusion, optimizing the textural and moisture properties of gluten-free dumpling skins involves a careful balance of protein content, starch type, and gelatinization parameters. By understanding these interactions, manufacturers can produce high-quality gluten-free dumpling skins that meet both consumer expectations and dietary requirements.

Materials and Methods

Materials

Sweet potato flour and tapioca flour, the main ingredients for this study, were purchased from different suppliers: L&L supermarket provided the sweet potato, while tapioca was obtained from Top Opal Supermarket in Pagoh Jaya. Both ingredients were cleaned and chopped into slices for drying. Next, the ingredients were milled into flour and kept in a container for further analysis.

Methods

Oven Drying for Moisture Content

The moisture content of the dumpling wrappers, including a control and three formulations, was determined using the oven-drying method. Finely ground samples (5 g) were placed in pre-weighed metal dishes and dried in a Lab Companion OF-02 drying oven at 105°C for 2 hours or until a stable weight was achieved. To prevent moisture reabsorption, the dried samples were cooled in a desiccator before weighing. Moisture content was calculated as a percentage of the initial weight, ensuring accuracy and repeatability in the results (AOAC, 2016; López et al., 2018).

Texture Analysis (TPA)

A Brookfield CT3 Texture Analyzer was used to measure key textural properties—hardness, adhesiveness, and springiness—of the dumpling wrappers. Duplicate samples were analyzed under standardized conditions, including a pre-test speed of 2 mm/s, test speed of 0.8 mm/s, and a compression rate of 75% using a P/36 R cylindrical probe. The averages of duplicate measurements were calculated to ensure reliable data (Li et al., 2008).

Protein Content Analysis (Kjeldahl Method)

Protein content in the formulations was determined using the Kjeldahl method. Samples were digested with concentrated sulfuric acid and a catalyst to convert proteins into ammonium sulfate. Sodium hydroxide was then added to release ammonia, which was absorbed in boric acid and quantified through back-titration with hydrochloric acid. The nitrogen content was calculated and multiplied by a conversion factor of 6.25 to determine protein content. This method ensured precise protein quantification, aligning with established standards (Haug & Lantzsch, 2022; Simms et al., 2019).

Thermal Properties Analysis (DSC)

The thermal characteristics of the control and formulated dumpling wrappers were assessed using a Differential Scanning Calorimeter (DSC ThermoPlus Evo 2). Accurately weighed samples (10 mg) were sealed in aluminum pans and analyzed under controlled heating conditions. A standard material (e.g., indium) was used for calibration, and heat flow data were recorded to identify thermal transitions critical for understanding the formulations' behavior.

Functional Group Analysis (FTIR)

Fourier Transform Infrared Spectroscopy (FTIR) was used to identify functional groups in the flours. Samples were ground, mixed with KBr, and compressed into pellets for analysis. Scans were performed to detect characteristic functional groups, comparing results to reference spectra to evaluate chemical properties relevant to the dough's performance.

Statistical Analysis

The relationships between moisture, protein content, and texture properties were analyzed using SPSS software. Statistical tests, including mean, standard deviation, and Pearson's correlation, were employed to identify patterns and interactions, offering insights into optimizing gluten-free dumpling formulations.

Results and Discussion

Effect of Formulation Variations on Protein, Moisture, and Texture Properties

The analysis of different formulations regarding protein content, moisture, and texture properties revealed that increasing the amount of sweet potato flour in the mix enhances both elasticity and protein levels. Formulation F1, which consists of 70% tapioca and 30% sweet potato, demonstrated the best combination of texture and moisture retention. A one-way ANOVA conducted with SPSS software confirmed that the differences among the formulations were statistically significant ($p < 0.05$), indicating that the varying proportions of tapioca and sweet potato flour had a notable impact on the texture and moisture characteristics of the gluten-free dumpling skins.

The analysis of gluten-free dumpling skin formulations with varying ratios of tapioca and sweet potato flour revealed significant differences in protein content, gelatinization temperature, moisture content, and springiness. The control formulation, made entirely of tapioca, exhibited the lowest protein content and the highest gelatinization temperature. In contrast, formulations F1 (70% tapioca, 30% sweet potato) and F2 (50% tapioca, 50% sweet potato) showed considerably higher protein levels and lower gelatinization temperatures. The moisture content was highest in the control and decreased in F1, F2, and F3, with no significant differences among the latter three (Figure 1). Springiness was particularly enhanced in F1 and F2, indicating better elasticity compared to the control and F3. There were no significant differences in cohesiveness or hardness across the various formulations. These findings suggest that incorporating sweet potato flour not only boosts protein content and elasticity but also lowers the gelatinization temperature, thereby improving the nutritional profile and processing efficiency of the dumpling skins. Additionally, while the addition of sweet potato flour increased protein levels and improved texture, it did not affect cohesiveness or hardness, suggesting that the formulations maintained their structural integrity. Overall, the results emphasize that adjusting the ratio of tapioca and sweet potato flour can effectively enhance nutritional value and texture, offering a superior gluten-free option without compromising product quality.

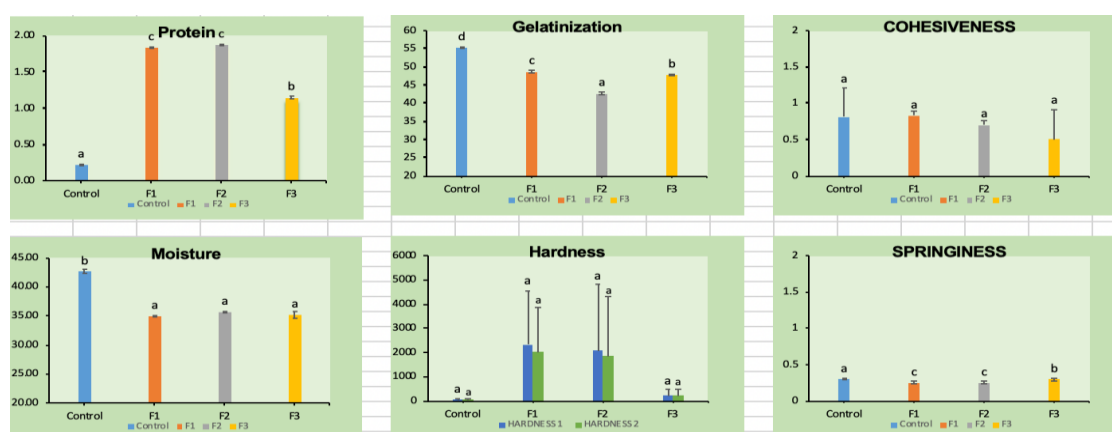


Figure 1: Effect of Formulation Variations on Protein, Moisture, and Texture Properties

The Pearson correlation analysis revealed that higher protein content negatively correlates with moisture and gelatinization temperature, indicating that increasing protein in the formulation enhances processing efficiency and texture characteristics. The Pearson correlation analysis of gluten-free dumpling skin formulations highlighted significant relationships among key

parameters, particularly the influence of protein content on texture and processing properties. A strong negative correlation between protein content and both moisture (-0.886) and gelatinization temperature (-0.869) indicates that higher protein levels result in drier dough and lower gelatinization temperatures, which enhances processing efficiency. Additionally, moisture and gelatinization temperature were positively correlated (0.811), suggesting that increased moisture levels necessitate more energy during processing. The study also identified a strong negative correlation between hardness and springiness (-0.990 and -0.986), indicating that firmer formulations tend to be less elastic (Figure 2). Cohesiveness did not show significant correlations with other parameters, implying it remains unaffected by protein content, moisture, or gelatinization temperature. These findings align with previous studies by Garrido et al. (2014) and Avallone et al. (2020), which also highlighted the effects of formulation variables, such as protein content, on texture and rheology in food products. The negative correlation between hardness and springiness supports existing research on food texture, where firmer products typically exhibit lower elasticity. The results underscore the critical role of protein content in optimizing both processing efficiency and texture in gluten-free dumpling skins. Future research could investigate how other variables, like ingredient ratios or processing conditions, might further influence these relationships, enhancing texture optimization strategies.

VARIABLES	CORRELATION COEFFICIENT	P-VALUE
PROTEIN & MOISTURE	-0.886**	0.003
PROTEIN & GELATINIZATION	-0.869**	0.005
MOISTURE & GELATINIZATION	0.811*	0.015
HARDNESS 1 & HARDNESS 2	0.999**	0.000
HARDNESS 1 & SPRINGINESS	-0.990**	0.000
HARDNESS 2 & SPRINGINESS	-0.986**	0.000

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

Figure 2: Significance Correlation for Protein, Moisture, Gelatinization and Texture

Thermal Properties Analysis (DSC)

The Differential Scanning Calorimeter (DSC) analysis of the gluten-free dumpling skin formulations showed clear thermal transitions that illustrate how different ratios of tapioca and sweet potato flour affect gelatinization. The formulation with 100% tapioca had a higher gelatinization temperature, which helped with moisture retention and texture. The mix of 70% tapioca and 30% sweet potato had a moderate gelatinization temperature, indicating a good balance of moisture absorption and better dough elasticity. On the other hand, the 50% tapioca and 50% sweet potato mix exhibited a slower gelatinization process, suggesting improved moisture absorption and a softer, more cohesive dough. Lastly, the formulation with 90% tapioca and 10% sweet potato showed quick gelatinization, leading to a firmer dough structure that retained moisture well, making it perfect for creating sturdy dumpling skins (Figure 3).

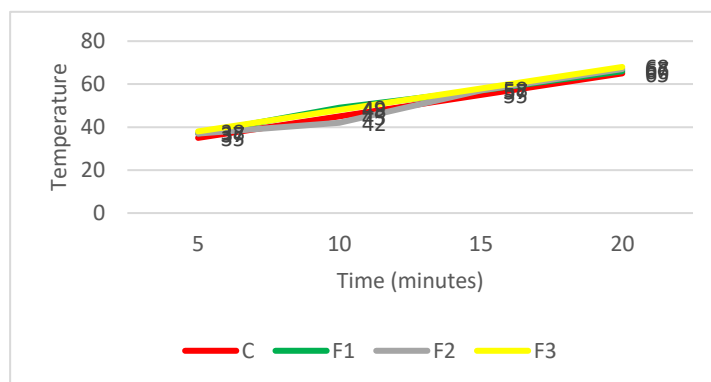


Figure 3: DSC Analysis for Different Formulation of Flour

The DSC analysis of the control formulation, which is made entirely of tapioca flour, showed clear thermal transitions marked by a series of endothermic peaks. The first peak at 34.5°C is likely due to moisture evaporation, as tapioca starch is known for its ability to absorb water. The following peaks at 44.6°C, 55.2°C, 64.5°C, and finally at 74.5°C indicate stages of starch gelatinization, particularly influenced by the high amylopectin content in tapioca. Since tapioca starch is mostly amylopectin, it generally has a lower gelatinization onset temperature. This observation is consistent with the research by Zaidul et al. (2008), which pointed out that starches rich in amylopectin have lower initial gelatinization temperatures compared to those with more amylose. The multiple thermal transitions suggest a gradual gelatinization process, emphasizing the alterations in granule structure and water absorption. This behavior is vital for creating a soft and elastic dough texture in gluten-free dumpling skins, underscoring the important role of tapioca in achieving the desired characteristics of the dough.

The DSC profile of the F1 formulation, which consists of 70% tapioca and 30% sweet potato flour, shows a gradual gelatinization process beginning at 48.5°C, with peaks at 56.8°C, 66.7°C, and a maximum peak at 76.8°C. The blend of tapioca and sweet potato flours results in a multi-phase gelatinization, likely due to the interaction of the different starches. Sweet potato flour, characterized by its specific amylose-to-amylopectin ratio, affects the gelatinization temperature, leading to a higher peak compared to the control. This gradual absorption of energy is beneficial for creating a cohesive dough with enhanced elasticity, which is crucial for handling and maintaining structure during cooking. These results align with the findings of Zaidul et al. (2008), who noted that mixed starches exhibit different gelatinization patterns due to variations in amylopectin and amylose content. The controlled gelatinization process observed in the F1 formulation highlights the significance of starch selection and ratio in enhancing the textural properties of gluten-free dumpling skins.

In the F2 formulation, which combines equal parts of tapioca and sweet potato flour, the DSC analysis indicates that gelatinization begins at 42.5°C, peaking at 57.2°C. The gelatinization curve is smoother and more gradual, suggesting that energy absorption is enhanced, which helps with uniform moisture uptake. This behavior points to better hydration and swelling of the starch granules, leading to a softer and more flexible dough. The consistent heat flow and gradual transitions indicate improved compatibility between the tapioca and sweet potato starches, minimizing phase separation during gelatinization. According to Zaidul et al. (2008) noted similar patterns in mixed starch systems, where blending starches with varying gelatinization properties improved the texture and cohesiveness of the dough. This gradual gelatinization observed in the F2 formulation underscores its potential for creating dumpling skins that retain moisture well and have the pliability necessary for a smooth, cohesive texture.

The DSC analysis of F3, a formulation consisting of 90% tapioca and 10% sweet potato flour, reveals that gelatinization begins at 37.6°C. Additional endothermic peaks were observed at 47.8°C, 57.8°C, and 67.9°C. The quick initial gelatinization can be attributed to the high tapioca content, which allows for early moisture absorption due to its lower gelatinization temperature. This early onset and rapid gelatinization lead to a firmer dough, which is beneficial for dumpling skins that need to be durable during both handling and cooking. These results align with the research conducted by Zaidul et al. (2008), which noted that starches like tapioca, rich in amylopectin, promote early gelatinization, thereby improving the dough's structural integrity. The rapid gelatinization properties of the F3 formulation highlight its effectiveness in producing strong and moisture-resistant dumpling skins, particularly in gluten-free recipes.

Fourier Transform Infrared (FTIR) Spectroscopy

FTIR spectroscopy of sweet potato flour (Figure 4) identified key functional groups, including O-H stretching, which plays a significant role in enhancing moisture retention and improving the elasticity of gluten-free dumpling skins. Similarly, FTIR analysis of tapioca flour (Figure 5) revealed functional groups that are responsible for moisture absorption and starch gelatinization, further supporting its role in optimizing texture and moisture retention in gluten-free dumpling skins.

The FTIR analysis of sweet potato flour highlighted important functional groups, showing significant absorption peaks that relate to its polysaccharide structure. The broad peak at 3375.00 cm^{-1} indicates O-H stretching, which is typical of hydroxyl groups found in high amounts in starch components. The peak at 2937.50 cm^{-1} represents C-H stretching, linked to aliphatic hydrocarbons present in the starch molecules. A prominent peak at 1644.20 cm^{-1} corresponds to H-O-H bending, suggesting moisture content. Additional peaks at 1420.00 cm^{-1} and 1060.00 cm^{-1} , associated with C-H bending and C-O stretching respectively, confirm the presence of polysaccharides. These findings align with earlier studies by Jagatee et al. (2021) and Ajayi et al. (2019), which also identified similar functional groups in sweet potato starch, emphasizing its composition and potential for moisture retention. These traits make sweet potato flour a valuable ingredient for improving the textural properties of gluten-free dumpling skins by enhancing moisture absorption and retention, which are essential for achieving the desired dough elasticity and cohesiveness (Figure 4).

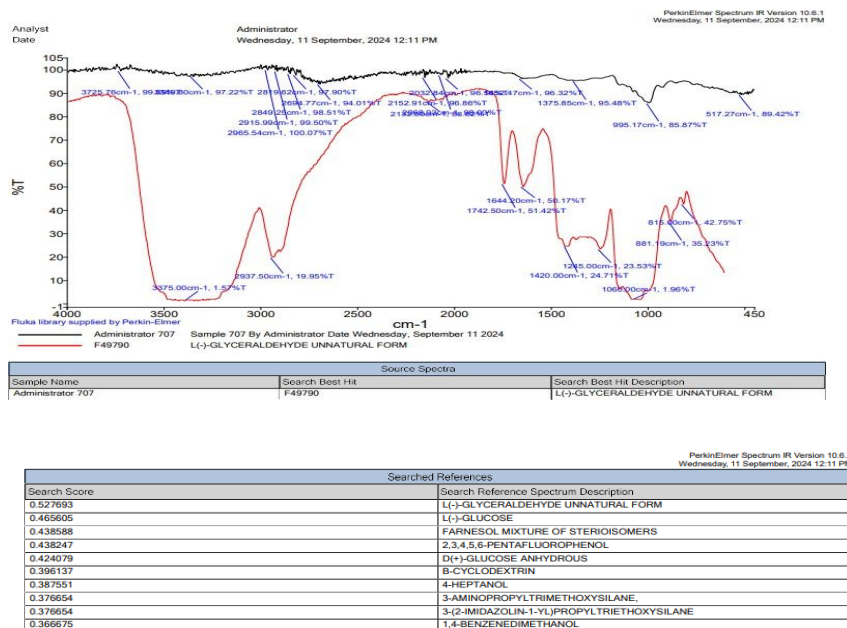


Figure 4: Fourier Transform Infrared (FTIR) Spectroscopy Analysis of Sweet Potato Flour

The FTIR spectrum of tapioca flour showed important functional groups that characterize its starch-based structure. The notable absorption peak at 3375.00 cm^{-1} is associated with O-H stretching, which indicates the presence of hydroxyl groups that play a role in moisture content and gelatinization properties. The peak at 2937.50 cm^{-1} corresponds to C-H stretching, suggesting the presence of aliphatic hydrocarbons, while the band at 1644.20 cm^{-1} is linked to H-O-H bending, indicating water absorption. The peaks at 1420.00 cm^{-1} and 1060.00 cm^{-1} represent C-H bending and C-O stretching, respectively, confirming the presence of polysaccharides in the tapioca starch. Similar observations were made by Sacithraa et al. (2013), who highlighted the significance of these functional groups in enhancing moisture absorption and gel formation. The identified functional groups in tapioca flour emphasize its potential for improving moisture retention and gelatinization, which are essential for texture stability in gluten-free dumpling skins, showcasing its versatility in allergen-free food applications.

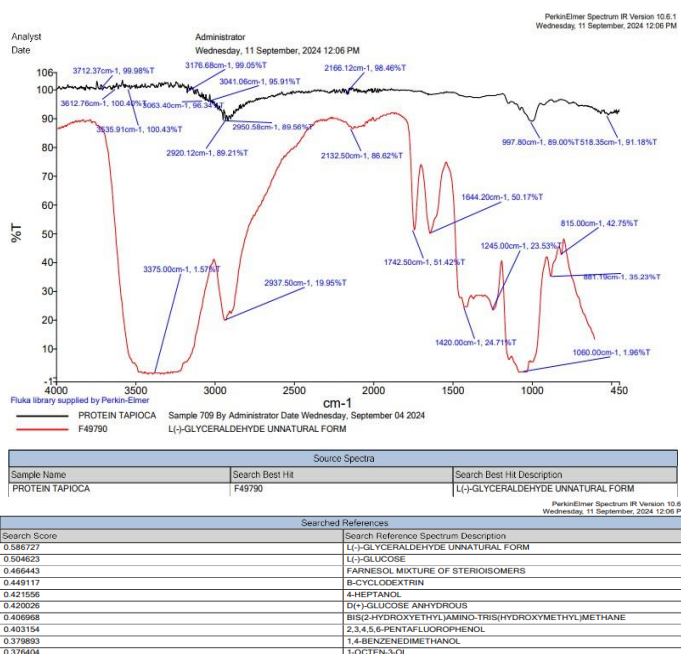


Figure 5: Fourier Transform Infrared (FTIR) spectroscopy Analysis of Tapioca Flour

Conclusion

This research has explored the important roles of protein content and starch gelatinization in improving the texture and moisture retention of gluten-free dumpling skins. The results show that the natural protein levels in tapioca and sweet potato flours have a significant impact on the structural integrity, elasticity, and overall texture of the dumpling skins. Increased protein content was found to enhance the dough's cohesiveness, chewiness, and resilience, closely resembling the desirable qualities of traditional wheat-based dumpling wrappers. Furthermore, the study highlighted that the degree of starch gelatinization during cooking is crucial in determining both the moisture content and final texture of the gluten-free dumpling skins. Proper gelatinization strikes the right balance between a moist, pliable dough and a firm, chewy texture after cooking. By carefully managing the interactions between different flour ratios and gelatinization parameters, the research has pinpointed an optimal formulation and processing method that produces gluten-free dumpling skins with superior quality characteristics. The insights from this study are significant for the increasing demand for high-quality gluten-free options in the food industry. The findings can guide product development strategies and help manufacturers create gluten-free dumpling skins that not only meet but exceed consumer expectations regarding texture, moisture retention, pliability, and overall appearance. Further research into the complex interactions between protein, starch, and other ingredients would open up valuable opportunities for ongoing innovation and improvement of gluten-free dumpling skin formulations. The research findings suggest that optimizing the protein content in tapioca and sweet potato flours is essential. It is also important to carefully manage the gelatinization process and investigate the synergistic effects of varying flour ratios and gelatinization parameters. This approach aims to consistently create high-quality gluten-free dumpling skins that satisfy or surpass consumer expectations.

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RUBBERIZED GLUTARALDEHYDE-MODIFIED STARCH PLASTICIZED WITH PROPYLENE GLYCOL

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Abstract: *With more and more plastics being employed in human lives and increasing pressure being placed on capacities available for plastic waste disposal, the need for biodegradable plastics and biodegradation of plastic wastes has assumed increasing importance in the last few years. This study mainly focused at the technological advancement made in the development of more easily biodegradable plastics and the biodegradation of conventional plastics by microorganisms. The objectives of this study were to characterize and evaluate the physical and mechanical properties of modified starch plasticized with propylene glycol. Besides, the characterization of thermoplastic starch was examined using FT-IR analysis. The thermoplastics starch was manufactured using different percentages of rubber by which the percentage values were 0%, 20%, and 50% based on the weight of the starch. Next, thermoplastics starch was tested for their physical and mechanical properties with the Scanning Electron Machine (SEM) and water absorption test for physical testing, whereas tensile and bending testing for mechanical test. Therefore, from the experiment conducted, it was indicated that thermoplastic starch with 50% rubber percentage has the dominant result, which showed the best potential to be used as a thermoplastic starch material product.*

Keywords: *Rubber, Starch, Propylene glycol, Composite*

Introduction

Plastics can be categorized as essential materials in today's society and these polymers based on olefins have wide commercial applicability. Prior to their extinction, life cycles of plastics contribute to pollution and depletion of non-renewable natural resources. Difficulty in disposal is one of the main factors it contributes to pollution. Considering performance and exceptional properties compared from other materials as metal and wood, plastic materials chosen as currently important materials nowadays. By prediction we say that demand for plastics will have ascent growth following trend that already increase since 1950s. (Álvarez-Chávez, Edwards, Moure-Eraso, & Geiser, 2012).

Society realized that plastic material is the fundamental materials for determinant of sustainability. Substitution from petroleum-based plastic with bio-based plastics is the one of promising sustainability practices because dependency of plastic on fossil fuels and pressure towards landfills from solid wastes plastic could be reduced. With high demanding healthier and safety materials plastics product, manufacturers are looking those bio-plastics for variety uses

product and packaging purposes as substitutes for chemicals usage as concern in consumer product (Hamid et al., 2019).

Ironically, materials made up from bio-based materials are promising as their sources are renewable and theoretically composted or recycled. Production for bio-based plastics may high energy efficient than petroleum-based product process. Two major group of plastics which are thermoplastics and thermoset plastics. Thermoplastics, or thermos softening plastic, is a plastic material, a polymer that becomes pliable or moldable above a specific temperature and solidifies upon cooling. (Alexander Borydyuk, 2014). Thermoplastics are polymers that can stream when warmed over a dissolving or vitrification temperature. They experience plastic distortion, which means thick stream with frequently complex rheology because of their expansive molar mass, traps, collaborations and chain branches (Zheng, Yanful, & Bassi, 2005).

In this research, it will undergo two process in order to make biodegradable thermoplastics panel which is starch modification and composite making. This panel will have mixture of starch (corn starch), glutardialdehyde as cross-linkage for rubberized and polypropylene glycol as plasticizers. Economic and biological downsides of oil-based plastics have pushed scientists to create and explore biodegradable plastics as an earth-neighborly option. Various ways can be carried out to make biodegradable products such as thermoplastics (Johari et al., 2023). In this research, the major problem that can be carried out from this research is the effectiveness of rubber in making thermoplastic panel.

Materials and Methods

Material Preparation

Corn starch. Sodium hydroxide (NaOH), glutardialdehyde solution (20% concentration), propylene glycol solution, and latex were obtained from local supplier.

Preparation and Evaluation of Thermoplastic Panel

Modification of starch starts with dilution of starch in 2 M sodium hydroxide (NaOH) concentration. Types of starch that will be use is corn starch. Next, it is mixed with 20% glutardialdehyde to combine with starch. Glutardialdehyde acts as a cross-linkage with the starch. Plasticizer were mixed in the solution by 20%. In this research, propylene glycol was used as plasticizer. Three samples were prepared, which were 0% w/w, 20% w/w, and 50% w/w rubber based on starch weight. The mixture was homogenously mixed and dried in an oven at 90°C temperatures. Modified starch formed and was characterized by Scanning Electromagnetic analysis (SEM), Thermal gravimetric analysis (TGA) and Fourier Transform Infrared Spectroscopy (FTIR).

Thermoplastic Starch Panel-Making and Testing

The composite-making process usually starts by preheating the modified starch at 140°C. Next, the modified starch is hot-pressed in a mould at 140°C to strengthen the panel. Then, the panel is cool and removed from the mould. The sample panel undergoes three types of tests: a tensile test, a bending test, and a water absorption test.

Results and Discussions

Scanning Electron Machine (SEM)

Figure 1 shows the SEM micrograph showing granules of native cornstarch, 0% rubber (A), 20% rubber (B), and 50% rubber (C) content at a magnification of 50x. It was observed that thermoplastic starch has an edgy appearance compared to native starch thermoplastic.

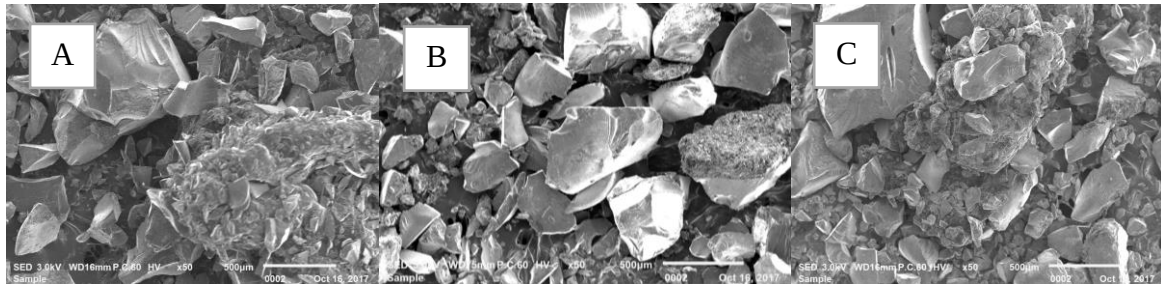


Figure 1: SEM micrograph showing granules of sample with 0% rubber (A), 20% rubber (B) and 50% (C) rubber content at magnification of 50x.

Thermogravimetry Analysis (TGA)

Figure 2 showed TGA results generated on thermoplastic starch. For sample with 0% percentage of rubber content, the samples undergo thermal degradation beginning at 112.42°C and with total mass loss 97.25%. Next, degradation of mass degrade to 194.42°C which showed that the loss of propylene glycol which act as plasticizer. Crucial decreasing weight samples was from 93.73% - 47.45% with temperature at 194.42°C and 276.42°C. The process was attributed to the degradation of the starch component. Start from 36.47%, degradation occur with the temperature gradually increase. From the previous study, it state that more complex nature of starch in the modified starch, probably forming interpenetrating networks structure with the synthetic polymer (Mano, Koniarova, & Reis, 2003). The process analyze in the above degradation of starch attributed to the pyrolysis of synthetic component.

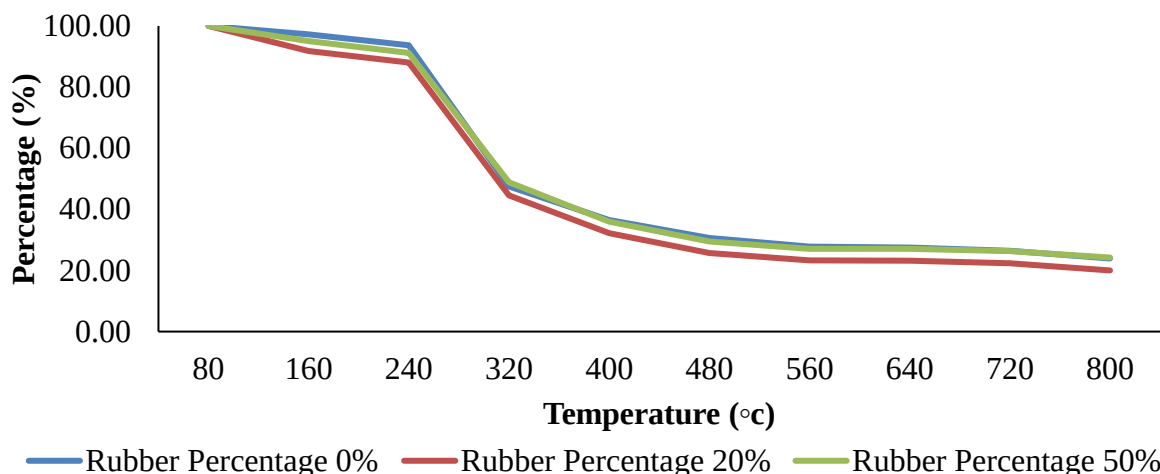


Figure 2: Thermal Gravimetric Analysis chart for 0%, 20% and 50% rubber content.

For thermoplastic starch with 20% percentage of rubber content, the samples undergo thermal degradation beginning at 112.42°C and with percentage mass loss at 91.76%. Process showed indication that small amount of water being absorb in the samples before analysis. Next, degradation of mass degrade to 91.76% which showed that the loss of propylene glycol as plasticizer. Crucial decreasing weight samples was from 88.04% - 44.51% with temperature at 194.12°C and 276.20°C. The process was attributed to the degradation of the starch component. Start from 44.51%, degradation occur with the temperature gradually increase. From the previous study, it state that more complex nature of starch in the modified starch, probably forming interpenetrating networks structure with the synthetic polymer. The further process analyze in the above degradation of starch attributed to the pyrolysis of synthetic component.

For thermoplastic starch with 50% percentage of rubber content, the samples undergo thermal degradation beginning at 112.56°C and with total mass loss 95.00% and weight loss to 4.94 mg. Next, decrement of mass to 91.15% which showed that the loss of propylene glycol which act as plasticizer. Crucial decreasing weight samples was from 91.15% - 48.85% with temperature at 194.65°C and 276.75°C. The process was attributed to the degradation of the starch component. Start from 35.96%, degradation occur with the temperature gradually increase. From the previous study, it state that more complex nature of starch in the modified starch, probably forming interpenetrating networks structure with the synthetic polymer.

Thus, from three samples of modified starch samples which 0%, 20% and 50% we can conclude that after Thermal Gravimetric Analysis (TGA) the degree of temperature (°C) increase in the end of testing with increasing percentage of rubber content. Previous study have stated that with polymeric materials it related increase thermal aging or service life of a materials. The mass loss occurred on 4 stages cause polymeric have thermal aging advantages. Besides, major characteristics of rubber that define longer thermal aging or working capacity were tensile strength and elongation at break (Bystritskaya, Monakhova, & Ivanov, 2013). The solid residue from all samples in different rubber content turn into char-like organic compounds (Jang & Wilkie, 2004).

Fourier Transform Infrared Spectroscopy (FT-IR)

Characterizing all samples of modified starch using FTIR is to identify or analyze chemical bonds in molecules. FTIR functioning by producing an infrared spectrum which produce a profile of the sample, a distinctive molecular fingerprint that can be used to screen and scan samples for many different components. Natural rubber consist of long chains with an unsaturated doubled bond which at each very five carbon atoms. Functional group of a rubber molecule was the unsaturated double bond which its can reacted to form new branching or copolymer. Natural rubber usually harvested from the rubber trees or other in form of latex. The concentration of carboxylic acid groups distributed on the surface of composite polymer latex (Lee, Young, Huang, & Chiu, 2000). Table 1 showed presence of functional group carboxylic acid group (COOH) at peak 1360.13 cm⁻¹ in sample 0% rubber content. Whereas for modified starch samples of 20% rubber content, carboxylic group presence at peak 1374.02 cm⁻¹ and in 50% rubber content modified starch sample, functional group for latex presence at peak 1367.07 cm⁻¹. Thus, from the FTIR testing it prove that in the modified starch samples have rubber with presence of carboxylic acid. In addition, in each different samples of rubber content there was corn starch in thermoplastic panel. Starch contain hydroxyl groups which proficient give hydrophilic properties to thermoplastic. As evidence, it prove in FTIR spectra testing when hydroxyl group (OH) corresponds at peak 3269.45 cm⁻¹.

Table 1: FTIR Interpretation of Infrared Spectra for Thermoplastic starch panel with different percentage content of rubber

FTIR Interpretation					
0% rubber content		20% rubber content		50% rubber content	
Peak	Group	Peak	Group	Peak	Group
434.51	Aryl disulfides	430.4	Aryl disulfides	435.91	Aryl disulfides
442.51	Aryl disulfides	451.81	Aryl disulfides	445.17	Aryl disulfides
455.99	Aryl disulfides	462.95	Aryl disulfides	457.24	Aryl disulfides
472.72	Polysulfides	479.41	Polysulfides	477.96	Polysulfides
486.11	Polysulfides	496.62	Polysulfides	489.63	Polysulfides
520.91	Aliphatic iodo compounds	504.37	Aliphatic iodo compounds	502.55	Aliphatic iodo compounds
700.56	Aliphatic bromo compounds	996.45	Aliphatic Phosphate	517.86	Aliphatic iodo compounds
993.19	Aromatic CH in-plane bend	1374.02	Carboxylate (carboxylic acid salt)	996.06	Aliphatic Phosphate
1360.13	Carboxylate (carboxylic acid salt)	3271.73	Hydroxy group	1367.07	Carboxylate (carboxylic acid salt)
3269.45	Hydroxy group			3278.06	Hydroxy group

Density of Thermoplastics Starch

Density can be defined as a measurement of an object by mass over volume. Panel density did not change drastically, as shown in Table 2. For 0% rubber content, the average density was 1.27 g/cm², 20% rubber content was 1.38 g/cm², and 50% rubber content was 1.31 g/cm².

Table 2: Density and tensile strength measurement of modified starch samples for thermoplastic starch with different rubber percentage content.

Rubber percentage (%)	Density (g/cm ³)	Modulus of Elasticity (MOE) (N/mm ²)	Elongation Break (mm)	Modulus of Rupture (MOR) (%)
0	1.27±0.17	384.871	0.687	13.268
20	1.38±0.106	191.889	1.125	12.857
50	1.31±0.04	138.415	1.385	8.47

*values in parentheses showed standard deviations (SD)

Tensile Strength

Table 2 also shows the mean value of Young's Modulus (N/mm²) of modified starch with and without rubber content. Based on the result, Young's modulus of modified starch decreased as the percentage of the rubber content increased. The value of Young's Modulus for rubber content 0%, 20% and 50% was 384.871 N/mm², 191.889 N/mm², 138.415 N/mm² respectively. The modified starch, which has high rubber content, has a lower modulus value. The results showed that the elongation break of modified starch increases gradually as the percentage of rubber content increases. The value of elongation break for rubber 0%, 20%, and 50% was 0.687 mm, 1.125 mm, and 1.385 mm, respectively. Elongation break is the amount of uniaxial strain at fracture and is depicted as strain at the point below. The Modulus of rupture for the modified starch with a percentage of rubber 0%, 20%, and 50% decreases slightly as the

percentage of the rubber content increases, with the values for rubber content 0%, 20%, and 50% being 13.268%, 12.857%, and 8.470%, respectively.

Water Absorption Test

In the water absorption test, the modified starch sample was soaked in distilled water for 2 and 24 hours. The size samples used for the testing were 2.5 x 2.5 cm, and the thickness of the samples was approximately 3 mm. Water absorption is used to determine the amount of water absorbed under specified conditions. Factors affecting water absorption include the type of plastic, additives used, temperature and length of exposure. The data sheds light on the performance of the materials in water or humid environments. In addition, the water absorption test is important for the physical properties of thermoplastic production because it ensures or evaluates the mechanical properties of a product. Understanding the water absorption test also will be the main factor in the improvement of thermoplastic stability.

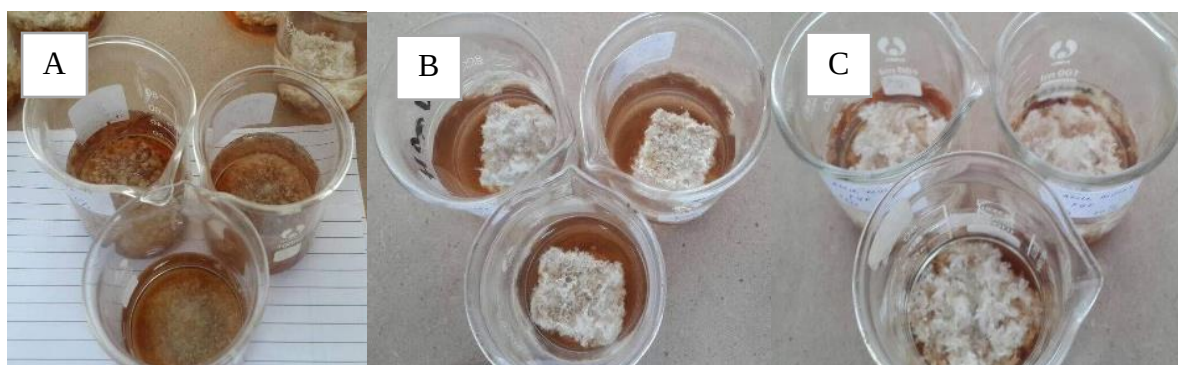


Figure 3: Modified starch samples for (A) 0%, (B) 20% and (C) 50% rubber content after 2 hours.

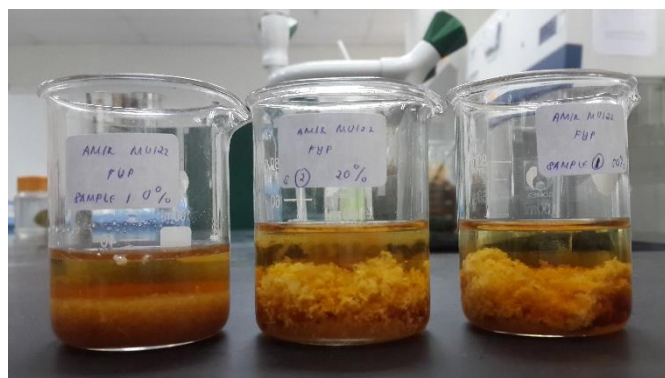


Figure 4: Modified starch samples for 0%, 20% and 50% rubber content after 24 hours.

In conducting the testing, different percentage of rubber content was used. From Figure 3, clearly showed that samples in (A) partially degraded in water. Comparatively with sample of modified starch in Figure 3 (B) and (C) showed the presence with whitish-color or rubber residue of the samples. The significant difference between samples in Figure 3 (B) and (C) were square-like shape of the samples presence after 2 hours soaked in water. The whitish and square-like shape of the samples prove that there were rubber in samples compare to samples (A).

After 24 hours samples have dissolved in water which turn color of water to brownish-like color as shown in Figure 4. There are no physical shape in these 3 beaker but by naked eyes the samples look swollen or puffed in the water. For 0% rubber the samples degraded completely in the water. However, for 20% and 50% rubber content of modified starch the samples have degraded in water but left rubber residue in the beaker. This was because the rubber molecules prevented the thermoplastic from dissolution in water and degraded by microorganism. Rubber have hydrophobic characteristics which with increase of rubber content in the sample of each beaker due to a presence of higher non-polar rubber content in the sample, thereby reducing water diffusion in the modified starch (Hemsri, Thongpin, Somkid, Sae-Arma, & Paiykaew, 2015). Furthermore, by immersion of modified starch for long time, water absorption of samples increased with increasing rubber contents due to the effect of elasticity of rubber molecule to easy expansion of modified starch (Vudjung et al., 2014).

Therefore, further calculation for water absorption test cannot be done because sample degraded in water. Nevertheless, obvious observation can be made from the result in order to state that thermoplastic starch with rubber can withstand longer. By referring literature review, starch contain hydroxyl groups that impart hydrophilic properties to it. Amylose dissolves in water and amylopectin swells in the presence of water. So, starch disintegrates in water and loses its properties when exposed to moisture (Mohammadi Nafchi, Moradpour, Saeidi, & Alias, 2013). Referred from previous study also, when samples immersed in water, the hydrophilic fiber swelled up. Fiber face cracking thermosetting resin. High cellulose content contributed more water penetrating create swelling stress leading to composite failure (Zhang et al., 2007). Thus, reducing mechanical properties of a composite or samples.

Conclusions

From the result, the thermoplastic-modified starch, which has high rubber content, showed greater physical and mechanical properties compared with samples with low rubber content. assessment for the mechanical testing for tensile and bending testing can be achieved. The tensile test shows decrement in tensile strength and sample rigidity while increasing its flexibility.

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TITLE MAPPING SMES' INTENTION TO ADOPT INFORMATION SYSTEM TECHNOLOGY: THEORIES, DETERMINANTS AND INTEGRATED FRAMEWORKS

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Abstract: Information System (IS) technology can enhance operational efficiency, strategic decision making, and competitiveness among Small and Medium Enterprises (SME). However, studies on the theoretical landscape and key determinants of SMEs' intention to adopt remain fragmented and under-researched. The Scopus and Google Scholar databases were used to retrieve relevant articles. Grounded on studies exploring information system technology, such as artificial intelligence (AI), blockchain technology, building information modelling (BIM), and digitalization, organization of theoretical models including the Technology Organization Environment (TOE) framework, Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and other theories are presented. Interesting findings discovered that, in addition to common determinants, such as technology considerations, organizational context, environmental factors, and psychological aspects, play a significant role in the decision-making process to adopt a technology. Through the synthesis process, this narrative review stresses the multi-theoretical attempts, which allows for better understanding and guidance for SMEs on their intention to adopt information system technology.

Keywords: SMEs, Information System Technology, IS Adoption, Intention to Adopt

Introduction

SMEs are greatly known for its impact towards the global economies, employments, competitiveness and driving innovations. However, in the interior of the technological era, SMEs nowadays are facing enormous challenges and market pressure. Martínez-Peláez et al., (2024) contended that, in order to see improvements, SMEs must try to leverage information system technology for better operation streamlines, seamless decision-making process and for maintaining trajectory growth. By adopting IS technology, SMEs could gain new opportunities and remain competitive. However, according to Chaudhuri, Chatterjee, Vrontis, and Chaudhuri (2022) even though SMEs are willing to adopt IS technology, they often lag behind larger organizations due to their lack of capabilities, and resource constraints.

A variety of behavioral and organizational factors influence SMEs intention to adopt IS technology. A study conducted by Masood and Sonntag (2020) discovered that SMEs would have higher the intention to adopt IS technology if they could gain significant benefits when they adopt such as reduction of cost and efficiency improvements. Meanwhile, organizational factors like top management support and organizational readiness play a critical role in deciding whether to adopt or not (Salim, El Barachi, Mohamed, Halstead, & Babreak, 2022). Besides that, external pressures such as competitive pressure, government pressure and client demand, further influence the SMEs decision to adopt IS technologies.

Numerous theoretical frameworks for technology adoption studies has been used since several decades ago. Some of the well-known theories are Technology Acceptance Model (TAM), Technology, Organization and Environment (TOE) framework and Unified Theory of Acceptance and Use of Technology (UTAUT) to name a few. Scholars and practitioners have used these theories to identify key determinants of adoption from the technology, organization, environment and individual context (Baker, 2012; Jeyaraj, Dwivedi, & Venkatesh, 2023; Tornatzky & Fleischer, 1990). However, as years go by, the technological ecosystem has evolved and the process of decision-making is now more multidimensional, context-dependent and moulded by complex relationships between internal and external factors.

This narrative review aims to fill this gap by critically assessing and synthesizing recent empirical findings on SMEs' intention to adopt IS technologies. Specifically, this review:

- (1) to examine the core theoretical frameworks informing current research and how they have been integrated or extended and
- (2) to identify and compare the key determinants that recur across different technologies and contexts.

By doing so, the review offers a roadmap that bridges theoretical diversity and practical relevance, guiding future scholarly efforts and strategic decisions in a rapidly evolving technological landscape.

The structure of this paper is organized as follows: The section begins by delineating the methodological approach and the criteria employed for selecting and reviewing pertinent studies. This is followed by a presentation and analysis of the findings gleaned from the literature. The subsequent discussion explores various theories applied within the studies and examines the integration of these theoretical frameworks to provide a comprehensive understanding of the subject matter.

Methodology

This narrative review employed a structured yet flexible approach to identify, evaluate, and synthesize relevant studies examining SMEs' intentions to adopt information system (IS) technologies. First, established inclusion criteria focusing on peer-reviewed journal articles and conference papers published between 2019 and 2024. Although earlier studies provide foundational insights, the chosen timeframe captures the latest theoretical refinements, emergent technologies, and evolving SME practices. To ensure a broad coverage of research, the databases Scopus and Google Scholar were searched using a combination of keywords such as "SMEs," "adoption intention," "information systems," "TAM," "TOE," "UTAUT," "blockchain," "cloud computing," "AI," and "BIM".

After an initial screening of titles and abstracts, full-text articles were retrieved and assessed for relevance. Studies that explicitly addressed SME contexts, examined determinants or theoretical frameworks, and reported empirical findings (quantitative, qualitative, or mixed methods) were retained. Articles focusing solely on large enterprises or purely conceptual papers without any empirical component were excluded. The final pool of articles was then organized using a literature matrix, capturing details such as authors, publication year, context, theoretical frameworks, methods, and key findings. This structured matrix served as the foundation for the subsequent thematic analysis and synthesis, enabling a more critical comparison of theoretical underpinnings, determinants, contexts, and methodological approaches across the selected body of work.

Findings and Discussions

Table 1: Theories and Models used from Previous Studies

Authors	Technology Context	Theoretical Framework(s) Utilized
(Kwak, Yoon, & Martí-Parreño, 2023)	Smart Factories	TAM, TOE, RDT
(Alqahtani, Beloff, & White, 2023)	Cloud Computing	TOE
(Murguia, Demian, & Soetanto, 2023)	BIM	Modified TAM
(Saad et al., 2022)	Cloud Accounting	TOE
(Adu, Plata, Ratilla, Novak, & Zlamal, 2022)	Digitalization	UTAUT
(Gartner, Fink, & Maresch, 2022)	New Manufacturing Technologies	TAM (extended with FOMO)
(Harun & Tajudeen, 2021)	Instagram Marketing	TOE
(Lorente-Martínez, Navío-Marco, & Rodrigo-Moya, 2020)	In-Store Tech (Retail SMEs)	TOE, TAM
(Qin, Shi, Lyu, & Mo, 2020)	BIM	TAM-TOE
(Fauzi, 2019)	Online Delivery Service (SMEs)	TAM + Institutional Theory

Source: Author's own compilation

The studies collectively integrate various theoretical frameworks such as the TAM, TOE framework UTAUT, and Resource Dependence Theory (RDT) to investigate SMEs' intention to adopt information system technologies. From Table 1, the theories and models that previous studies used reveal the diversity of technological context and the integration of theoretical frameworks. Most of the studies use established models like TAM, TOE and UTAUT as their underpinning theory.

Integration of TAM-TOE framework in a blockchain adoption in SMEs study (Shaikh et al., 2024) which focuses on relative advantage, compatibility, vendor support and management support. This approach of integration allows better understanding of the phenomena. Similarly, the expansion of TAM and TOE were further integrated with RDT, adding the perceived importance of technology adoption process within the smart factory context (Kwak et al., 2023). Studies of Building Information Modelling (BIM) and ERP system in smart manufacturing (Murguia, Vasquez, Demian, & Soetanto, 2023) adapted TAM and this demonstrates the relevance of using TAM in studying IS technology adoption.

Further expanding the theoretical realm, TOE framework was used to explore the adoption of cloud computing, emphasizing the social factors along technological, organizational and environmental considerations (Alqahtani et al., 2023). Studies by Adu et al. (2022) and Saad et al. (2022) stresses the role of top management support, security and anxiety which were driven from the psychological factor. The psychological factor play an important role in cloud accounting and digitalization adoption. Another concept called Fear of Missing Out (FOMO) was introduced by Gartner, Fink, and Maresch (2022) which was extended from TAM. This illustrates that more extended models are now including emotional and experiential factors.

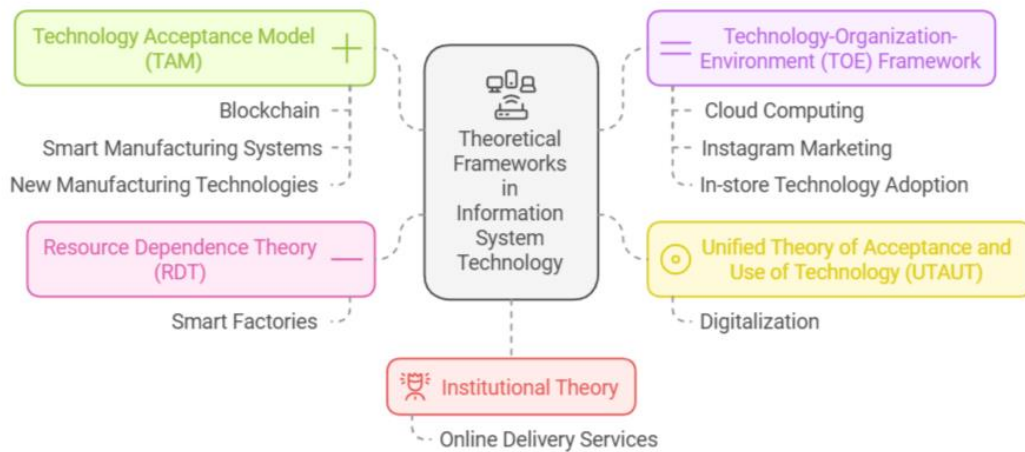


Figure 1: Technology Adoption Models

Source: Author's own creation

Table 2: Determinants of Adoption Intention by Technology Type

Technology Type	Common Determinants Found	Example Studies
Blockchain (SMEs)	Compatibility, Relative Benefit, Tech Readiness, Management Support, Vendor Support	(Salim et al., 2022)
Smart Factories	Perceived Usefulness, Perceived Importance (RDT), Technological & Org. Factors	(Kwak et al., 2023)
Cloud Computing/Cloud Accounting	Relative Advantage, Security, Top Management Support, Organizational Readiness, Service Quality	(Alqahtani et al., 2023; Saad et al., 2022)
BIM (Construction)	Project-level Usefulness, Ease of Implementation, Policy Requirements, Standardization	(Murguia, Demian, et al., 2023; Qin et al., 2020)
Digitalization (SMEs)	Performance Expectancy, Attitude, Anxiety (FOMO), Experience	(Adu et al., 2022; Gartner et al., 2022)
Social Media Marketing (Instagram)	Technological, Organizational, Environmental readiness	(Harun & Tajudeen, 2021)
Online Delivery Service (SMEs)	Perceived Usefulness, Ease of Use, Institutional Pressures (Normative, Coercive, Mimetic)	(Fauzi, 2019)

Source: Author's own compilation

Different technology requires difference determinants. In blockchain studies by Malik, Chadhar and Chetty (2021) and Salim et al. (2022) emphasized that the technology should be compatible with the current system, offer clear benefits and supported by management and vendors. The stated factors help to pivot specific challenges related to technology adoption and disruptive technology.

Conversely, other technologies such as smart factories, cloud computing and cloud accounting show varied yet coincide within determinants. A study by Kwak et al. (2023) pointed out that perceived importance and perceived usefulness which were drawn from Resource Dependence

Theory, are used strategically in adopting smart factory technologies. Due to this outcome, decision-making in smart manufacturing is highly influenced by the perceived strategic gain. Similarly, in cloud technology studies Alqahtani et al. (2023) and Saad et al. (2022) contented to security, relative advantage, top management support, service quality and organizational readiness as key drivers for the intention to adopt technology.

This comparative analysis of what influences the adoption of various technologies helps us better understand why SMEs choose to adopt specific technologies. It also acts as a guidance in customizing technology implementation strategies to meet the unique needs and circumstances of different SME sectors.

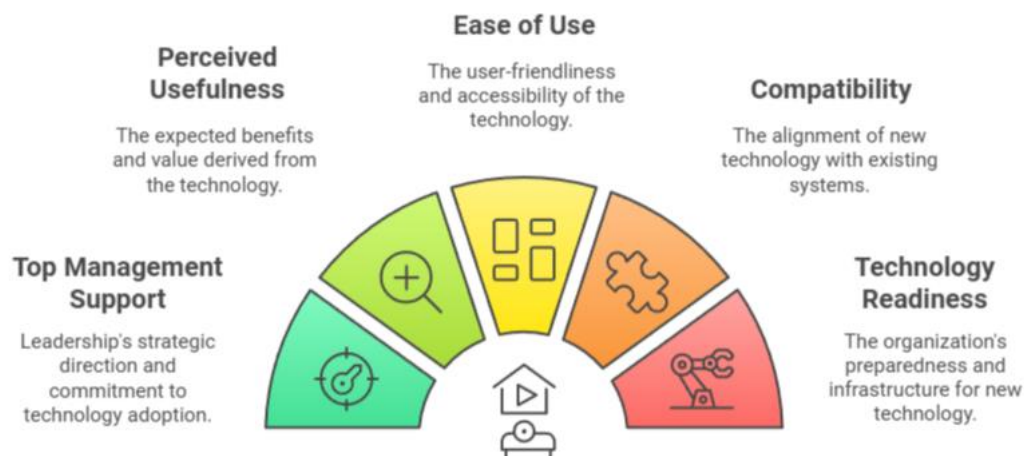


Figure 2: Top 5 Key Determinants of Adoption Intention in IS Studies

Source: Author's own creation

Future Suggestions

Building on what is known from this review, there are several promising paths for future research. Firstly, studies tailored to specific contexts—considering local cultural norms, regulatory environments, and industry specifics—would provide deeper insights. These investigations could explore how different contextual factors, like government policies or market competition, affect traditional drivers of technology adoption. While many current studies use surveys and quantitative analysis, adding qualitative research, case studies, and long-term studies could reveal more about the evolving nature of technology adoption. Longitudinal studies, for example, could track changes in SMEs' attitudes towards new technologies over time as conditions and technologies themselves evolve. Detailed case studies and interviews might highlight complex dynamics, like the interplay between psychological factors, such as the fear of missing out, and practical constraints.

Furthermore, it's crucial to look more closely at external support systems and the broader ecosystem. Studies could investigate how support from government programs and the reliability of vendor services influence technology adoption within SMEs. This could inform how well external assistance meets the needs of SMEs or where it falls short.

Lastly, integrating less conventional theoretical frameworks, such as behavioral economics or network-based theories, could offer new perspectives on why SMEs might quickly adopt

certain technologies while being hesitant about others. Exploring how digital ecosystems and relationships with suppliers and partners affect SMEs' technology strategies could provide a more comprehensive view of the adoption landscape. By adopting a broader range of methodologies and theoretical approaches, future research can give us a more transparent, more dynamic picture of how SMEs interact with new technologies, leading to more effective policies and strategies for digital advancement.

Conclusion

This review has synthesized the extensive body of literature concerning SMEs' intentions to adopt information systems, highlighting the crucial aspects of technology, organizational factors, environmental conditions, and emerging psychological and cultural influences. Whilst conventional models like TAM, TOE, and UTAUT continue to present foundational insights, the developing technological landscape and the varied SME contexts require more nuanced and dynamic approaches.

In conclusion, this narrative review not only sheds light on the multifaceted nature of IS adoption among SMEs but also sets the stage for future investigations that could support policymakers, technology providers, and SME owners in nurturing an environment that enhances the effective and sustainable adoption of information systems. As the digital landscape continues to advance, so does the understanding and methodologies in researching SMEs' adoption behaviors, safeguarding that the insights gained are relevant, actionable, and conducive to the growth and sustainability of SMEs in the digital age.

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PENGETAHUAN ILMU KENEGARAAN DAN PERLEMBAGAAN DALAM PEMBENTUKAN NILAI BAIK DI KALANGAN MAHASISWA: KAJIAN KES DI UMS

KNOWLEDGE OF STATEHOOD AND CONSTITUTION IN THE ESTABLISHMENT OF FAVOURABLE VALUES AMONG THE GRADUANS: A CASE OF UMS

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Abstrak: Ilmu kenegaraan dan perlembagaan terhadap rakyat adalah sangat penting. Seseorang warganegara seharusnya memiliki ilmu tersebut bagi meningkatkan tahap patriotik terhadap negara dan seterusnya dapat melahirkan warganegara yang memiliki nilai serta etika kehidupan yang unggul. Pengetahuan yang berkaitan dengan perlembagaan, undang-undang dan Rukun Negara, demokrasi, berparlimen, sejarah kemerdekaan adalah antara perkara yang seharusnya dimiliki ilmunya oleh seseorang warganegara di Malaysia. Penghayatan ilmu tersebut penting untuk memastikan kehidupan bernegara yang harmoni dan sejahtera kerana ianya mampu menjadi benteng kepada segala perbuatan yang bertentangan dengan amalan hidup yang tidak beretika dan bermoral. Bagi memahami hal ini maka kertas kerja ini memberi penjelasan tentang pengetahuan masyarakat terutamanya generasi muda terhadap ilmu kenegaraan Malaysia. Diharap kertas kerja ini menyediakan penjelasan sewajarnya tentang topik yang diketengahkan bagi memastikan kelangsungan Malaysia yang harmoni, selamat dan beretika.

Kata Kunci: Kenegaraan, Nilai, Mahasiswa, Perlembagaan, Undang-Undang

Abstract: Knowledge of the statehood and the constitution among the people is crucial. The citizen should have such a knowledge for improvement in terms of patriotism as well as to make poses them good values and ethics in their life. Knowledge related to the constitution, laws and 'Rukun Negara,' democracy, parliament, the history of independence are among the matter which must be possessed by the citizen of Malaysia. Understanding of such a knowledge is vital in ensuring a harmonious and prosperous nation as it can be a fort against all actions that are contrary to unethical and moral practices. In order to understand this, this paper provides an explanation about the knowledge of the community, especially the young generation, towards Malaysian statehood. It is hoped that this paper provides proper explanation on the topic for the survival of harmonious, safe, and ethical Malaysia.

Keywords: Constitutions, Law, Statehood, Students, Values

Pengenalan

Pengetahuan terhadap ilmu yang berteraskan kemahiran insaniah ketika belajar di universiti adalah penting dan mustahak. Kemahiran ini seharusnya dipelajari dan dimiliki oleh setiap pelajar sebagai bekalan ilmu semasa pelajar memasuki alam pekerjaan dan kehidupan bermasyarakat. Oleh itu ilmu pengetahuan yang berteraskan kepada perlembagaan, undang-undang dan rukun negara adalah antara pengetahuan asas yang perlu dimiliki oleh pelajar

universiti sebagai nilai tambah terhadap kemahiran insaniah. Umum mengetahui bahawa pelajar universiti adalah pewaris kepimpinan negara terutamanya dalam pelbagai sektor seperti sektor awam dan sebagainya. Oleh itu, tahap pengetahuan ilmu yang berteraskan perlembagaan, undang-undang dan rukun negara diharapkan dapat meningkatkan daya kepimpinan yang baik, berintegriti dan juga berpatriotik terhadap bidang tugas dan negara. Berdasarkan kepada nilai kepentingan ilmu ini terhadap keperluan dan daya kepimpinan masa depan negara, maka kajian ini akan melihat dan menganalisis pengetahuan pelajar universiti terhadap ilmu pengetahuan yang berteraskan perlembagaan, undang-undang dan rukun negara.

Bagi memastikan penulisan ini menepati keperluan akademik dan fokus terhadap kemahiran insaniah dan kepimpinan dalam kalangan pelajar, maka beberapa aspek akan dibincangkan seperti beberapa kajian lepas, metodologi kajian, pemahaman terhadap konsep, dapatan kajian dan analisis terhadap kajian tersebut. Diharapkan penulisan ini yang berkaitan dengan peningkatan terhadap kefahaman dan pengetahuan perlembagaan, undang-undang dan rukun negara dapat meningkatkan keupayaan terhadap kepimpinan negara pada masa depan. Penghayatan terhadap nilai-nilai dan etika kepimpinan yang bercirikan sejarah, perundangan dan kenegaraan menjadi tuntutan yang penting oleh pelajar universiti sebagai pemimpin masa depan negara.

Sorotan Literatur

Ayu Norazilah Mohamad, Mohammad Ali, Wayu Nor Asyikin (2019) melihat peranan Perlembagaan Persekutuan Malaysia sebagai agen dalam mengharmonikan perhubungan masyarakat majmuk di Malaysia. Hasil kajian mendapati bahawa kewujudan Perlembagaan Persekutuan Malaysia menjadi ikatan yang bermakna dalam mensejahterakan hubungan masyarakat majmuk di Malaysia. Secara umum kajian ini membincangkan kepentingan perlembagaan persekutuan dalam konteks pembentukan masyarakat harmoni di Malaysia. Pembentukan persefahaman dalam masyarakat berbilang kaum memerlukan usaha dan penghayatan terhadap sejarah dan perlembagaan sebagai agen penyatuan. Permuafakatan dan saling bertolak ansur antara masyarakat berbilang kaum sangat penting kerana ia akan mewujudkan keadaan di mana setiap anggota masyarakat faham akan tanggungjawab terutamanya dalam konteks memelihara keamanan dan perpaduan kaum untuk kebaikan semua.

Manakala Mohd Azri Ibrahim et al (2020) melihat tahap pengetahuan pelajar terhadap ilmu perlembagaan dan undang-undang. Secara dasarnya hasil kajiannya mendapati bahawa tahap pengetahuan pelajar terhadap ilmu perlembagaan dan undang-undang adalah baik. Ini menunjukkan pelajar telah memiliki asas ilmu perlembagaan dan undang-undang menerusi pembelajaran di peringkat sekolah dan pendedahan oleh isu-isu semasa yang memaparkan hal ehwal yang berkaitan dengan kes perundangan. Oleh itu beliau merumuskan bahawa pelajar menyedari akan kepentingan ilmu tersebut untuk pelajar dan juga untuk negara secara keseluruhannya. Rohaizatulamni, Sarjit & Ahmad Tarmizi (2012) dalam kajiannya yang berkaitan dengan pemahaman dan penghayatan terhadap rukun negara dalam kalangan belia. Kajian ini bertujuan mengenal pasti tahap pemahaman dan penghayatan belia pelbagai kaum terhadap ideologi nasional, yakni Rukun Negara. Hasil kajian mereka telah mendapati bahawa belia Melayu lebih memahami serta menghayati Rukun Negara berbanding kaum lain dan secara umumnya menunjukkan bahawa tahap pemahaman belia adalah tinggi. Walau bagaimanapun, tahap penghayatan terhadap Rukun Negara dalam kalangan belia masih berada pada tahap sederhana. Oleh itu, kajian ini mencadangkan bahawa generasi muda kini seharusnya lebih prihatin serta menghayati falsafah dan Rukun Negara untuk memastikan bangsa Malaysia lebih bersatu padu untuk membentuk jati diri nasional dan tamadun Malaysia.

Siti Norayu Mohd Basir, Junainor Hassan, Shuhairimi Abdullah dan Hassad Hassan (2014) pula dalam kajiannya yang melihat dan menganalisa persepsi pelajar teknikal di Universiti Malaysia Perlis UniMAP mengenai kefahaman konsep Rukun Negara yang diajar dalam subjek Hubungan Etnik menerusi dua pendekatan iaitu, melihat dan menganalisa tahap kesedaran dan kefahaman pelajar terhadap kepentingan Rukun Negara dan bagaimana subjek Hubungan Etnik memberi impak dalam usaha menyuburkan lagi kesedaran dan pemahaman konsep Rukun Negara dalam kalangan pelajar. Kajian ini mendapati bahawa subjek Hubungan Etnik penting dalam memberi kesedaran dan kefahaman konsep Rukun Negara dalam pembentukan masyarakat majmuk yang harmoni dan bertoleransi di antara satu sama lain.

Seterusnya kajian Mohd Azri et al., (2021) pula bertujuan untuk meninjau dan menganalisis pandangan pelajar universiti tentang kepentingan ilmu pengetahuan berkaitan perlembagaan, undang-undang dan Rukun Negara untuk kepimpinan yang lebih baik pada masa hadapan. Kajian tersebut mendapati pengetahuan berkaitan perlembagaan, undang-undang dan Rukun Negara sememangnya amat penting untuk kepimpinan yang lebih baik pada masa hadapan. Kajian tersebut diharapkan dapat menjadi medan pengkongsian ilmu terhadap kehidupan bermasyarakat dan bernegara yang lebih harmoni, selamat dan beretika di Malaysia dalam sebuah masyarakat majmuk berdasarkan pengetahuan ilmu perlembagaan, undang-undang dan Rukun Negara.

Tinjauan literatur terhadap mahasiswa di Universiti turut dijalankan. Kajian Irma Wani et al. (2021) bertujuan untuk merungkai tafsiran berhubung nilai positif, semangat dan jati diri, bilamana mahasiswa didedahkan dengan keupayaan meningkatkan kemandirian dalam konteks penyertaan politik kampus. Selain itu, kajian ini juga bertujuan meneliti sumbangan kejayaan yang berterusan mahasiswa berjiwa besar dan tinggi karisma kepimpinan dalam aspek pembangunan politik negara pada hari ini. Hasil dapatan kajian tersebut menjumpai dua penemuan baru dikemukakan iaitu kebebasan berpolitik yang diberikan kepada mahasiswa di negara ini perlu dimanfaatkan sebaiknya, terutama dalam melahirkan golongan muda berjiwa besar dan kebebasan berpolitik dilihat mampu membantu mencorak aspek kepimpinan terutama di peringkat universiti dan mereka yang berkarisma dan berkredibiliti dapat memacu pembentukan negara ke arah lebih baik tidak kira daripada segi politik, ekonomi dan sosial. Bagi kajian Saifulazry dan Kasoma (2023a) pula dijalankan adalah untuk melihat tahap penerimaan dan keberkesanan kursus Tasawwur Islam dalam kalangan mahasiswa asasi di Universiti Malaysia Sabah. Hasil penawaran kursus Tasawwur Islam di peringkat asasi menunjukkan 84% dari pelajar dapat menambah ilmu pengetahuan pelajar khususnya dalam selok belok agama Islam, 60% pelajar dapat mengaplikasikan ilmu-ilmu yang diperolehi dalam kehidupan seharian dan 42% pelajar dapat mengubah diri mereka menjadi seorang yang lebih baik dari sebelumnya. Secara keseluruhannya, penawaran kursus Tasawwur Islam di peringkat asasi ini sangat memberikan impak positif terhadap kehidupan mahasiswa bagi menempuh hari-hari yang mendatang.

Seterusnya dalam kajian Saifulazry et al. (2021a) bertujuan untuk melihat rekayasa dakwah dalam kalangan mahasiswa di Universiti Malaysia Sabah menerusi kursus umum universiti iaitu Penghayatan Etika dan Peradaban (PEDP) dari sudut penerimaan dakwah dan keselesaan mereka dalam menerima teguran dan nasihat. Kajian tersebut mendapati majoriti mahasiswa sangat bersetuju dengan pendekatan dan rekayasa dakwah yang diaplikasikan oleh pensyarah dalam kursus Penghayatan Etika dan Peradaban. Pengajaran dan Pembelajaran (PdP) yang diselitkan dengan unsur-unsur dakwah membolehkan mahasiswa dapat menerima ilmu dengan mudah dan santai serta meninggalkan kesan positif dalam kehidupan mereka. Selain itu, kajian Mohd Sohaimi et al., (2021) membincangkan tentang keberkesanan PnP dalam talian bagi kursus PEDP

tersebut sesuai dengan keadaan norma baharu pada masa kini. Hasil dapatan kajian menunjukkan bahawa matlamat asas dan objektif kursus ini tercapai walaupun dibuat dalam talian sepenuhnya, tetapi ia diandaikan bahawa pencapaian akan lebih ketara sekiranya ianya diajar menggunakan kaedah tradisional iaitu melalui kaedah pengajaran dan pembelajaran secara bersemuka.

Metodologi Kajian

Kajian ini akan menggunakan kaedah penyelidikan yang berteraskan kuantitatif dan kualitatif. Penyelidikan secara *mix method* ini adalah diharapkan dapat menjelaskan fokus kajian yang berpaksikan data soal selidik dan analisis dapatan data tersebut dengan temubual dalam kalangan pelajar sebagai responden kajian ini. Kajian ini secara kuantitatifnya melibatkan set soal selidik yang dijawab menerusi *google form* oleh responden kajian iaitu pelajar universiti seramai 257 orang. Pada masa yang sama kaedah kualitatif pula menerusi forum atau maklum balas responden di ruangan portal *online learning* juga diperolehi daripada responden yang juga terdiri daripada kalangan pelajar universiti. Dapatan kajian secara soal selidik akan dianalisis bersama dengan maklum balas pelajar bagi memastikan kedua-dua kaedah penyelidikan ini dapat diaplikasikan dalam kajian ini. Menerusi kaedah kajian ini adalah diharapkan data statistik dapat disokong dan diujahkan dengan pandangan atau pendapat pelajar. Ini bagi memastikan dapatan kajian ini lebih menyeluruh dan rumusan dapat membuktikan akan kepentingan ilmu pengetahuan perlembagaan, undang-undang dan rukun negara dalam konteks kepimpinan pelajar dapat ditonjolkan sebagai fokus utama dan penting bagi kajian ini.

Pendefinisian dan Pemahaman Konsep

Diruangan yang terhad ini, penulisan yang berasaskan pendefinisian dan pemahaman konsep akan dihuraikan secara ringkas dan padat. Ini bagi memastikan beberapa konsep penting kajian ini dapat difahami yang akhirnya dapat memudahkan kefahaman terhadap keseluruhan kajian dan penulisan ini. Oleh itu konsep perlembagaan, undang-undang dan kepimpinan akan dihuraikan secara ringkas berdasarkan pandangan sarjana dalam disiplin ilmu yang berkaitan serta huraian ringkas secara keseluruhannya. Manakala pemahaman konsep rukun negara pula akan dihuraikan berdasarkan kepada latar belakang kemunculannya serta prinsip-prinsip rukun negara tersebut serta perbincangan terhadap kepentingan penghayatannya.

Menurut Perlembagaan Persekutuan (2019) iaitu Perkara 4 telah memperuntukan bahawa perlembagaan merupakan undang-undang tertinggi negara. Ini membuktikan secara jelas bahawa perlembagaan merupakan undang-undang uatam di negara kita. Menurut Wheare (1951) pula perlembagaan merupakan satu dokumen bertulis yang mentaksirkan susunan institusi-institusi politik pemerintah negara serta hak-hak rakyat di dalam negara berkenaan. Abdullah Sanusi (1987) mengatakan bahawa perlembagaan ialah buku yang mengandungi undang-undang agong negara manakala Shiela (1994) pula berpendapat bahawa perlembagaan merupakan sekumpulan undang-undang dasar yang menjadi garis panduan kepada pemerintahan sesebuah negara. Berdasarkan beberapa definisi yang berkaitan dengan perlembagaan di atas, maka adalah jelas bahawa perlembagaan merupakan undang-undang utama di Malaysia dan ianya merupakan dokumen bertulis yang menjadi panduan kepada semua urusan yang berkaitan dengan pemerintahan dan pentadbiran negara.

Umum mengetahui bahawa undang-undang merupakan satu peraturan umum mengenai perlakuan manusia. Ianya juga boleh difahami sebagai peraturan terhadap perkara-perkara yang tidak boleh dilakukan dan ianya datang bersama dengan hukuman jika seseorang melakukan kesalahan dari segi undang-undang. Menurut David (1992) undang-undang merupakan satu peraturan mengenai perbuatan manusia yang menimbulkan kesan-kesan tertentu sebagaimana yang ditentukan oleh negara. Manakala Abdul Aziz (1995) pula melihat undang-undang sebagai mengandungi perbuatan-perbuatan yang dilarang atau ditegah, perbuatan yang perlu dan boleh dilakukan, jika seseorang tidak mematuhi ianya akan dihukum dan ianya juga memastikan semua pihak mendapat hak-hak masing-masing. Secara umumnya dapat difahami bahawa undang-undang adalah aturan yang mengawal perbuatan hidup kita atau masyarakat dalam sesebuah negara. Oleh itu adalah jelas bahawa dalam sesebuah negara undang-undang sangat penting untuk diikuti bagi memastikan kehidupan bermasyarakat yang sejahtera. Kepentingan undang-undang dapat dilihat menerusi amalan kepatuhan bagi memastikan masyarakat hidup secara aman, damai dan harmoni.

Kenegaraan secara umum dapat dirujuk sebagai warnegeraan yang berpengetahuan terhadap ilmu-ilmu negara seperti demokrasi, perlembagaan, sejarah dan sebagainya. Pemahaman dan penghayatan terhadap ilmu kenegaraan adalah sangat penting dan ianya dapat mekahirkan masyarakat yang bertanggungjawab terhadap kepentingan-kepentingan negara seperti kehaormonia, perpaduan, kecintaan dan sebagainya. Oleh itu adalah penting bagi seseorang warganegara atau mahasiswa untuk mempersiapkan diri dengan ilmu-ilmu kenegaraan dan seterusnya dapat meningkatkan nilai-nilai kepimpinan sebagai seorang pemimpin. Pemimpin dan kepimpinan adalah penting dalam sesebuah negara. Seseorang pemimpin seharusnya mempunyai ciri-ciri kepimpinan yang baik dan berkesan bagi memastikan pentadbiran yang diketuainya berjalan dengan baik dan berjaya serta tidak melakukan perbuatan-perbuatan yang menyalahi undang-undang dan peraturan. Menurut Kamus Dewan (1989) kepimpinan bermaksud keupayaan memimpin. Kepimpinan merupakan satu proses yang berkaitan dengan tingkah laku dalam aspek mengurus atau arahan terhadap seseorang dalam ruang lingkup tanggungjawab dan skopnya bagi mencapai sesuatu objektif. Menurut Saifulazry et al. (2023b) secara realitinya, istilah kepemimpinan membawa pelbagai pengertian dan definisi kerana ia bergantung kepada kesesuaian dan keperluannya serta mereka yang mendefinisikannya. Walaupun kepemimpinan adalah sesuatu yang kompleks untuk ditakrifkan namun ia membawa kepada suatu persamaan dari segi kandungannya iaitu sebagai suatu proses, pengaruh, kerja sepasukan serta menentukan sesuatu matlamat yang diinginkan (Saifulazry et al., 2021c).

Berdasarkan pemahaman terhadap konsep perlembagaan dan undang-undang adalah jelas bahawa kewujudannya dalam negara adalah perlu dan penting. Dalam konteks kefahaman oleh setiap anggota masyarakat pula dapat dinilai berasaskan kepatuhan yang jitu terhadap setiap peruntukan yang terdapat di dalam perlembagaan dan juga setiap undang-undang serta ilmu kenegaraan yang berkaitan. Pemahaman, penghayatan dan kepatuhan terhadap perlembagaan dan undang-undang juga perlu wujud dalam diri setiap pemimpin. Ini bagi memastikan pemimpin dan kepimpinannya sentiasa melakukan tindakan yang selaras dengan perlembagaan dan undang-undang, sebagainya contohnya dari aspek integriti berdasarkan Akta Suruhanjaya Pencegahan Rasuah yang dapat melahirkan pemimpin tidak melakukan rasuah, pecah amanah, penyelewengan dan sebagainya yang berkaitan dengan integriti. Pendefinisian secara ringkas terhadap konsep perlembagaan, undang-undang dan kepimpinan adalah secara jelas menunjukkan sesebuah negara sangat memerlukan pemimpin yang mempunyai daya kepimpinan yang berteraskan ciri-ciri yang baik dan tindakannya seharusnya selaras dengan perlembagaan dan undang-undang.

Kefahaman terhadap rukun negara sebagai contoh dalam kajian ini akan tertumpu kepada sejarah kewujudannya dan prinsipnya. Pemahaman ini penting dan diharapkan ianya dapat memberi pengetahuan asas berkaitan dengan aspek rukun negara. Tanah Melayu yang terdiri dariapada masyarakat pelbagai kaum telah berjaya mencapai kemerdekaan pada 31 Ogos 1957 menerusi usaha kerajaan Perikatan yang berjaya membentuk kerajaan selepas pilihanraya umum 1955 yang diketuai oleh Tunku Abdul Rahman sebagai Perdana Menteri. Kemerdekaan ini disusuli dengan kejayaan Tunku apabila berjaya merealisasikan gagasan Malaysia pada 16 September 1963 menerusi kemasukan wilayah Borneo iaitu Sabah dan Sarawak serta Singapura. Kejayaan Tanah Melayu mencapai kemerdekaan dan pembentukan gagasan Malaysia akhirnya diuji dengan satu peristiwa berdarah iaitu Peristiwa 13 Mei 1969 yang menyaksikan konflik antara kaum yang menyebabkan kematian, kecederaan, kemusnahan harta benda dan krisis perkauman.

Rentetan daripada Peristiwa 13 Mei, akhirnya kerajaan telah menubuhkan Majlis Gerakan Negara (MAGERAN). Menerusi MAGERAN ini yang diketuai oleh Tun Abdul Razak, tertubuhnya Majlis Perundingan Negara dan Jabatan Perpaduan Negara. Tujuan MAGERAN adalah bagi memastikan konflik kaum dapat diatasi dan mengembalikan keamanan dan keharmonian kehidupan bermasyarakat yang berbilang kaum. Akhirnya Majlis Perundingan Negara berpandangan bahawa rakyat Malaysia berbilang kaum memerlukan satu ideologi yang boleh dikongsi bersama antara masyarakat majmuk. Oleh itu pada 31 Ogos 1970, ideologi rasmi negara iaitu dikenali sebagai Rukun Negara telah diperkenalkan menerusi 5 prinsip. 5 prinsip Rukun Negara tersebut ialah Kepercayaan kepada Tuhan, Kesetiaan kepada Raja dan Negara, Keluhuran Perlembagaan, Kedaulatan Undang-Undang dan Kesopanan dan Kesusilaan. Akhirnya kelima-lima prinsip ini kekal sehingga kini sebagai suatu pegangan bersama bagi semua kaum di Malaysia iaitu yang dikenali sebagai Rukun Negara.

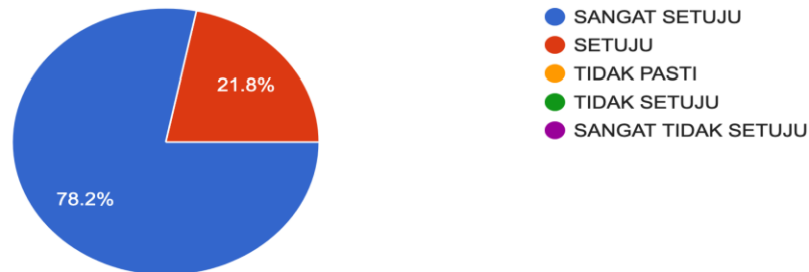
Hasil Dapatan dan Analisis

Berdasarkan kepada soal selidik yang dikemukakan kepada responden iaitu pelajar UMS seramai 257 orang, didapati bahawa 100% responden mengatakan sangat setuju dan bersetuju bagi aspek kepimpinan adalah sangat penting kepada seseorang pelajar universiti. Pelajar berpendapat bahawa, kepimpinan di peringkat universiti dan pengalaman yang diperolehi semasa di universiti akan membantu tingkah laku dan tindakan pelajar dalam aspek kepimpinan apabila ianya memasuki alam pekerjaan. Manakala bagi aspek yang berkaitan dengan kepimpinanan menuntut seseorang memiliki ilmu pengetahuan juga menunjukkan hampir keseluruhan responden adalah sangat bersetuju dan bersetuju serta hanya kurang 5% berpendapat tidak pasti dan tidak setuju. Ini secara jelas menunjukkan bahawa ilmu pengetahuan sangat penting bagi aspek pemimpin dan kepimpinan. Bagi soalan yang berkaitan dengan hubungan kepimpinan dan ilmu pengetahuan untuk seseorang pemimpin negara masa depan telah menunjukkan juga majoriti responden atau 94% menyatakan ianya penting manakala selebihnya adalah mengatakan tidak pasti. Merujuk kepada ketiga-tiga soalan awal di atas adalah jelas menunjukkan bahawa ilmu pengetahuan adalah penting bagi seseorang pemimpin terutamanya di kalangan pelajar universiti kerana ianya dilihat sebagai pemimpin masa depan negara. Oleh itu seseorang mahasiswa seharusnya mempersiapkan diri dengan ilmu pengetahuan bagi menyediakan diri untuk memimpin negara atau organisasi.

Carta 1: Pengetahuan Rukun Negara, Perlembagaan, Undang-Undang Dan Kepimpinan Masa Depan

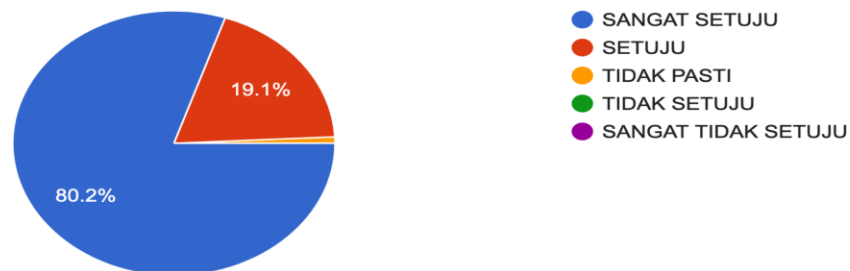
4. ILMU PENGETAHUAN BERKAITAN DENGAN RUKUN NEGARA SANGAT PENTING UNTUK KEPIMPINAN NEGARA YANG LEBIH BAIK DI MASA DEPAN.

257 responses



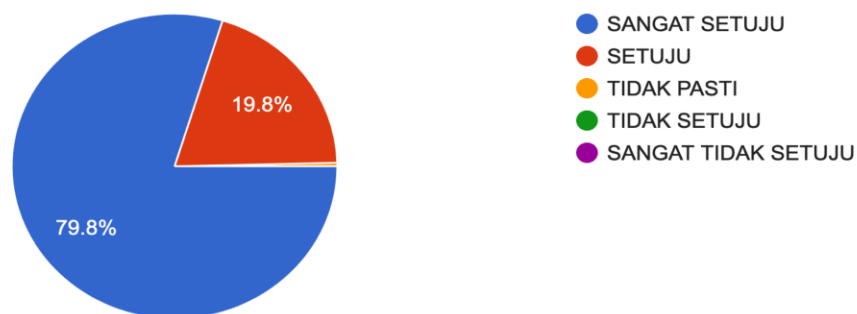
5. ILMU PENGETAHUAN BERKAITAN DENGAN PERLEMBAGAAN SANGAT PENTING UNTUK KEPIMPINAN NEGARA YANG LEBIH BAIK DI MASA DEPAN.

257 responses



6. ILMU PENGETAHUAN BERKAITAN DENGAN UNDANG-UNDANG SANGAT PENTING UNTUK KEPIMPINAN NEGARA YANG LEBIH BAIK DI MASA DEPAN.

257 responses



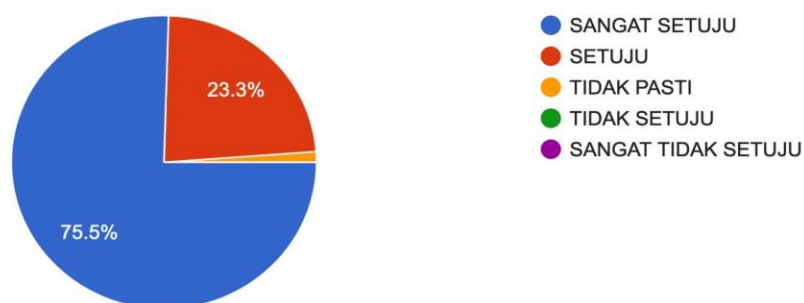
Berdasarkan Carta 1 di atas, secara jelas menunjukkan bahawa keseluruhan daripada responden sangat bersetuju dan bersetuju bahawa ilmu pengetahuan yang berkaitan dengan aspek Rukun Negara adalah sangat penting dalam aspek kepimpinan untuk masa depan. Ini membuktikan bahawa pengetahuan yang berkaitan dengan nilai sejarah dan penghayatan terhadap Rukun Negara menjadi keutamaan dalam kalangan pelajar dan ia adalah sesuatu yang baik terhadap pelajar. Seorang pelajar telah menyatakan pendapatnya iaitu “*sebagai seorang pelajar yang akan menjadi seorang pemimpin masa depan adalah perlu untuk mengetahui dan menghayati prinsip-prinsip Rukun Negara dalam masyarakat majmuk di*

Malaysia". Oleh itu adalah jelas bahawa Rukun Negara sangat penting untuk dipelajari dan dihayati oleh pelajar dan juga masyarakat secara keseluruhannya. Manakala bagi kepentingan ilmu pengetahuan yang berkaitan dengan perlembagaan pula, sebanyak 99.3% responden sangat bersetuju dan bersetuju bahawa ilmu perlembagaan penting bagi kepimpinan masa depan negara manakala hanya 0.7% sahaja menyatakannya tidak pasti. Hal ini secara jelas menunjukkan ilmu pengetahuan yang berkaitan dengan perlembagaan sangat perlu dan penting untuk kepimpinan masa depan negara agar setiap tindakan yang diambil nanti adalah selaras dengan perlembagaan. Menurut salah seorang pelajar, beliau berpendapat *"saya sangat minat mempelajari ilmu perlembagaan dan ianya penting kepada saya kerana dapat mengetahui perkara-perkara yang terdapat di dalamnya seperti tentang hak asas dan pilihanraya"*

Carta 1 juga menunjukkan kepentingan ilmu undang-undang dalam konteks kepimpinan masa depan dan dapatan kajian menunjukkan bahawa 99.6% responden sangat setuju dan setuju dalam hal tersebut dan hanya 0.4% sahaja yang mengatakan tidak pasti. Oleh itu secara majoriti daripada responden berpendapat bahawa ilmu pengetahuan yang berkaitan dengan undang-undang sangat penting untuk kepimpinan masa depan negara. Ini dapat diujahkan bahawa peristiwanya sesuatu ilmu undang-undang seperti contoh Kanun Keseksaan yang memperuntukan hal-hal yang berkaitan dengan undang-undang jenayah. Pemahaman ilmu terhadap Kanun Keseksaan akan memastikan pemimpin dan kepimpinan masa depan tidak melakukan sesuatu kesalahan jenayah. Diharapkan pemimpin masa depan memiliki ilmu pengetahuan yang berkaitan dengan perlembagaan, undang-undang dan rukun negara pada tahap yang tinggi dan dibimbangi dengan ilmu pengetahuan yang rendah akan cenderung kepimpinan masa depan berhadapan dengan kesukaran dan kekeliruan dalam memimpin dan akhirnya akan menjejaskan kepimpinan di peringkat negara atau sesebuah organisasi. Pembinaan sifat kepemimpinan dan kepengikutan sepatutnya dilaksanakan dengan memberikan fokus terhadap aspek *tazkiyah alnafs* secara tidak langsung dapat melahirkan sebuah organisasi yang harmoni pada masa akan datang (Abang Mohd Razif, 2021).

Carta 2: Pengetahuan Rukun Negara, Perlembagaan, Undang-Undang dan Kepimpinan Berintegriti

9. PENGETAHUAN TERHADAP RUKUN NEGARA, PERLEMBAGAAN DAN UNDANG-UNDANG ADALAH SANGAT PENTING TERHADAP PEMBENTUKAN YANG BAIK DAN BERINTEGRITI NEGARA.
257 responses



Berdasarkan Carta 2 di atas, ia menunjukkan hubungan antara kepentingan ilmu pengetahuan yang berkaitan dengan Rukun Negara, Perlembagaan dan Undang-Undang dalam pembentukan kepimpinan yang berintegriti. Dapatan kajian mendapati sebanyak 98.8% daripada keseluruhan responden sangat bersetuju dan bersetuju bahawa dengan memiliki ilmu pengetahuan Rukun Negara, perlembagaan dan undang-undang akan dapat melahirkan pemimpin dan kepimpinan yang baik dan berintegriti. Ini dapat dibuktikan dengan pandangan

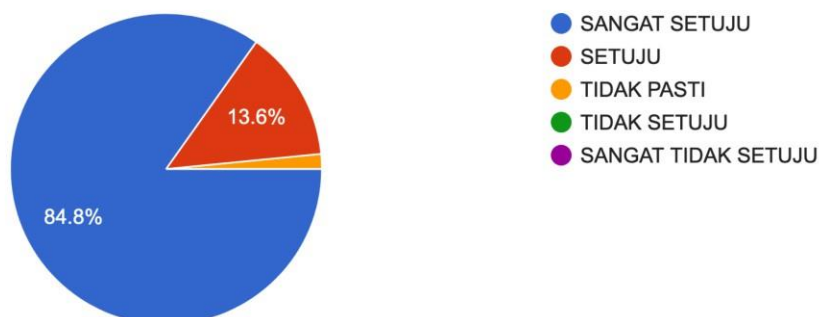
seorang pelajar iaitu “*saya yakin dengan ilmu sebegini akan dapat membentuk sikap dan tingkah laku yang baik dan positif terutamanya dalam kalangan pelajar*”. Ini dikukuhkan lagi dengan pendapat seorang lagi pelajar dan beliau berpendapat bahawa “*ilmu rukun negara akan dapat melahirkan perasaan patriotisma terhadap negara manakala ilmu perlembagaan dan undang-undang akan dapat menjadi peringatan daripada melakukan perbuatan yang salah terutamanya dalam aspek kepimpinannya*”. Oleh itu, berdasarkan kepada data dapatan kajian dan pandangan pelajar dapat membuktikan bahawa betapa ilmu tersebut sangat penting pada pandangan pelajar dalam pembentukan sikap dan tingkah laku seorang pemimpin masa depan negara. Menurut Nurul Ain et al. (2021), pembentukan matlamat, disiplin dan kesediaan menerima kritikan merupakan ciri-ciri kelebihan yang dapat membentuk dan memupuk jiwa kepimpinan dalam pelajar yang mempunyai kemahiran kepimpinan yang mantap sesuai untuk digunakan apabila mereka keluar ke dunia sebentar.

Di UMS terdapat kursus UL01802 Perlembagaan Malaysia dalam Gugusan Pengajian Liberal yang ditawarkan di Pusat Penataran Ilmu dan Bahasa. Kursus ini secara umumnya memberi penekanan terhadap beberapa aspek iaitu pemahaman terhadap pemahaman konsep, sejarah perlembagaan, pembentukan rukun negara dan peruntukan yang terdapat di dalam Perlembagaan Persekutuan. Pelajar mengambil kursus ini sebagai kursus Mata Pelajaran Umum (MPU) dan ia bermatlamatkan kefahaman terhadap hal ehwal kenegaraan Malaysia terutamanya dari aspek perlembagaan, asas undang-undang dan sejarah. Diharapkan kursus ini dapat menyediakan ilmu asas yang berkaitan dengan perlembagaan kepada pelajar sebagai nilai tambahan dalam peningkatan kemahiran insaniah Huraian berikutnya adalah berdasarkan data dapatan kajian yang berkaitan dengan kepentingan ilmu bagi kursus UL01802 Perlembagaan Malaysia

Carta 3: Kursus UL01802 dan Pembentukan Kepimpinan

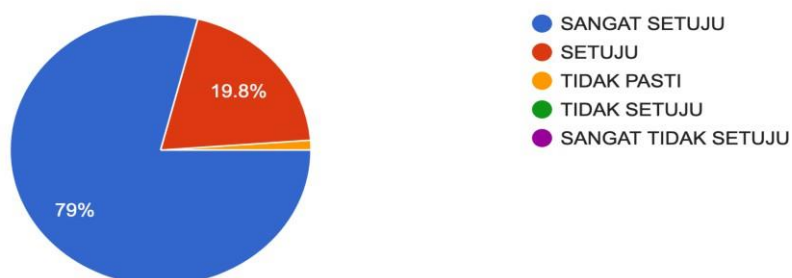
11.KURSUS ULO1802 PERLEMBAGAAN MALAYSIA MERUPAKAN KURSUS YANG DAPAT MENYEDIAKAN ILMU PENGETAHUAN BERKAITAN ...GAAN DAN UNDANG-UNDANG KEPADA PELAJAR.

257 responses



12.SAYA YAKIN DENGAN MEMPELAJARI KURSUS ULO1802 PERLEMBAGAAN MALAYSIA IANYA DAPAT MENAMBAH ILMU PENGETAHUAN DAN PEN...N BARISAN KEPIMPINAN NEGARA MASA DEPAN.

257 responses



Carta 3 di atas menunjukkan data dapatan kajian yang berkaitan dengan kursus UL 01802 Perlembagaan Malaysia dan kaitannya dengan peningkatan ilmu pengetahuan serta pembentukan sikap kepimpinan masa depan negara. Berdasarkan dapatan kajian sebanyak 98.4% daripada responden berpendapat bahawa kursus UL01802 dapat menyediakan ilmu pengetahuan yang berkaitan dengan perlembagaan, undang-undang dan rukun negara. Ini memandangkan aspek-apsek tersebut merupakan antara kandungan kursus dan ia diajar kepada pelajar yang mendaftar kursus tersebut. Oleh itu matlamat kursus ini untuk menyediakan asas ilmu pengetahuan yang berkaitan dengan perlembagaan, undang-undang dan rukun negara adalah tercapai dan pelajar mengakuinya. Menurut seorang pelajar berdasarkan hantaran dalam portal *online learning* berpendapat bahawa *“Pada pendapat saya, bahagian yang termaktub dalam Perlembagaan Persekutuan yang mana boleh membentuk kepimpinan dalam kalangan pelajar adalah Bahagian Kebebasan Asasi. Ini kerana, dalam bahagian ini banyak mengajar individu untuk lebih bertimbang rasa dengan orang lain. Seorang pemimpin yang baik perlu mempunyai sikap seperti ini oleh itu tidak dapat dinafikan bahawa Bahagian Kebebasan Asasi ini mampu membentuk kepimpinan dalam kalangan pelajar. Seterusnya ialah Bahagian Persekutuan yang mana banyak mengaitkan tentang pemimpin negara. Melalui bahagian ini, individu dapat melihat bagaimana seorang pemimpin itu menjalankan tugas mereka dalam negara dan hal ini sekaligus mempengaruhi sifat kepimpinan dalam diri pelajar dengan mencontohi setiap sifat- sifat pemimpin yang bijak. Selain itu, Bahagian Pilihan Raya juga mampu membentuk kepimpinan dalam kalangan pelajar. Hal ini kerana, melalui pilihan raya yang dijalankan serta pematuhan terhadap undang-undang sewaktu pilihan raya memperlihatkan bahawa seorang pemimpin itu haruslah sentiasa mematuhi peraturan yang ada. Melalui Pilihan Raya juga kepimpinan dalam diri pelajar dapat dibentuk kerana mereka dapat melihat dan mencontohi sikap-sikap para calon sepanjang menjalankan kempen. Oleh itu, tidak dapat dinafikan bahawa ianya dapat membentuk kepimpinan dalam diri individu sekaligus dapat digunakan dan dimanfaatkan bagi pemimpin negara pada masa hadapan”*

Manakala bagi dapatan kajian yang berasaskan kepentingan kursus UL01802 dalam pembentukan kepimpinan masa depan negara, sebanyak 98.9% berpendapat bahawa kursus ini mampu melahirkan pemimpin masa depan yang baik kerana asas perlembagaan yang dipelajari dapat dimanfaatkannya nanti. Menurut Saifulazry et al. (2021b), pengaruh kepimpinan seseorang itu sangat mudah dipengaruhi oleh orang bawahanya sekiranya seseorang pemimpin itu mempunyai nilai peribadi yang baik. Dapatan ini yang secara majoritinya menyokong akan kepentingan kursus UL01802 adalah bukti bahawa ilmu perlembagaan, undang-undang dan rukun negara adalah tindakan tepat dalam menawarkan kursus MPU ini dalam kalangan pelajar universiti sebagai kursus elektif. Kepentingan ini dapat dibuktikan dengan pandangan seorang pelajar yang diperolehi daripada forum portal *online learning* yang berpendapat *“Pada pandangan saya, undang-undang yang dapat membentuk sikap kepimpinan dalam diri pelajar ialah seperti yang termaktub dalam Perkara 8 yang memperlihatkan tentang hak kesamarataan. Melalui undang-undang ini, individu dapat dibentuk untuk sentiasa bersikap adil kerana sudah menjadi kewajiban seorang pemimpin itu seharusnya tidak bersikap berat sebelah. Ini akan membantu dalam membentuk kepimpinan dalam diri pelajar. Selain itu, dalam Perkara 11 mengenai kebebasan beragama. Individu yang bebas mengamalkan tanpa disekat akan lebih dekat dengan penciptanya dan perkara sebegini sekaligus membentuk kepimpinan dalam diri pelajar kerana nilai-nilai yang perlu ada sebagai pemimpin sudah di tanam melalui pengamalan agama sendiri. Selain itu, ialah Perkara 12 iaitu Hak Berkeajaan dengan Pendidikan. Peluang individu untuk melanjutkan pelajaran juga akan dapat membentuk kepimpinan dalam diri mereka melalui apa yang mereka pelajari di sekolah. Oleh itu, menurut undang-undang yang sudah dinyatakan tadi dapat dilihat bahawa kepimpinan*

dalam diri individu itu bukan hanya terbentuk secara semula jadi namun perlu juga melalui undang-undang yang sudah ditetapkan”.

Berdasarkan dapatan kajian dan huraian di atas adalah jelas menunjukkan keperluan dan kepentingan kursus UL01802 Perlembagaan Malaysia. Kandungan kursus ini menggambarkan tuntutan ilmu pengetahuan oleh pelajar terutamanya dalam memahami asas terhadap perlembagaan, undang-undang dan rukun negara. Keperluan dan kepentingan ilmu ini dapat dibuktikan dengan pandangan pelajar yang memperlihatkan peri pentingnya ilmu ini kepada pelajar dan kesungguhan serta komitmen pelajar dalam mempelajari kursus ini. Menurut Saifulazry et al. (2023c) keperibadian akhlak dan ketinggian ilmu merupakan indikator utama bagi seseorang pemimpin. Pemimpin yang tidak mempunyai sifat-sifat ini sudah pasti tidak dapat mentadbir sesebuah organisasi dengan baik dan cemerlang.

Kesimpulan

Membina negara yang terdiri daripada pelbagai kaum dan kepercayaan adalah menuntut setiap warganegara bersatu hati mengukuhkan asas perpaduan dan integrasi nasional. Tapak yang berasaskan perlembagaan, undang-undang dan rukun negara sebagai ilmu tentang kenegaraan adalah antara acuan yang dapat membentuk masyarakat yang bersatu padu dan harmoni. Oleh itu, asas terhadap ilmu pengetahuan yang berkaitan dengan perlembagaan, undang-undang dan rukun negara seharusnya dimiliki dan dihayati oleh setiap lapisan masyarakat tanpa mengira kaum, kepercayaan, tempat tinggal, budaya dan sebagainya tanpa perasaan prejudis dan perkauman. Pemimpin dan kepimpinan masa kini dan masa depan seharusnya memahami peri pentingnya mentadbir negara dan sesebuah organisasi dengan penuh tanggungjawab, amanah, integriti dan partiotisme. Maka pendidikan hari ini adalah untuk melahirkan pemimpin untuk masa depan. Oleh itu, pendidikan di universiti adalah medan akhir untuk menyediakan barisan kepimpinan masa depan dan seharusnya mahasiswa memiliki ilmu pengetahuan yang mencukupi sebagai pemimpin. Diharapkan dengan mempelajari kursus UL01802 Perlembagaan Malaysia, setiap pelajar dapat mempersiapkan diri dengan asas ilmu perlembagaan, undang-undang dan rukun negara serta kenegaraan sebagai nilai tambah dalam kemahiran insaniah pelajar. Berdasarkan dapatan kajian dan analisis dapat difahami akan kepentingan ilmu pengetahuan yang berteraskan perlembagaan, undang-undang dan rukun negara kepada seseorang pelajar dan akhirnya sebagai pemimpin masa depan negara.

Penghargaan

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THE SINO-NATIVE IMPACTS ON THE DEVELOPMENT OF IDENTITY POLITICS IN SABAH, MALAYSIA

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Abstrak: Konsep Sino-Native secara amnya merujuk kepada seseorang yang menjadi sebahagian Cina dan sebahagian Anak Negeri. Sehubungan itu, orang cina yang dilahirkan daripada keturunan campuran sumpama ini melalui pengenalan sedemikian, mereka sewajarnya turut menikmati hak istimewa yang serupa dengan kedudukan orang Anak Negeri apabila mereka diberikan status bumiputera yang termaktub dalam Perlembagaan Persekutuan Malaysia. Identiti sedemikian, disebalik hal ini, telah mengakibatkan perubahan bukan sahaja budaya tradisional orang asli tempatan, tetapi juga orang Cina. Oleh itu, ramai yang berpendapat bahawa identiti Sino-Native boleh menyumbang dengan ketara kepada pengukuhan cengkaman mana-mana parti politik terhadap politik Malaysia melalui manipulasi identity seumpamanya. Malah ada pihak yang menegaskan bahawa kemunculan Sino-Native telah menyebabkan peningkatan minat para ahli politik terhadap politik identiti di negara ini. Justeru, perdebatan berhubung hal ini telah menimbulkan isu-isu hipotesis yang menjadi tumpuan perbincangan dalam manuskrip ini bagi matlamat menangani peningkatan manipulasi keatas politik identity dari lensa Sabah di Malaysia dengan memberi tumpuan kepada persoalan berikut: a) apakah sebenarnya konsep Sino-Native dan politik identiti di Sabah, b) bagaimana Sino-Native telah memberi kesan kepada perkembangan politik identiti di Sabah, Malaysia, dan c) apakah kesan yang tidak diinginkan daripada penambahan Sino-Native ke dalam aktiviti politik identiti di Sabah, Malaysia. Kertas kerja itu menyimpulkan dengan mengesyorkan beberapa strategi yang sewajarnya diaplikasikan bagi usaha meminimumkan kesan yang tidak diinginkan akibat munculnya konsep Sino Native dalam arena politik identiti yang semakin berkembang di Sabah, Malaysia.

Kata Kunci: Politik Identiti, 'Sino-Native', Sabah, Malaysia

Abstract: The concept of Sino-Native generally refers to one who is being part Chinese and part Native. Accordingly, the Sino-Native includes those born of mixed-parentage and that with such an identification, they should enjoy special rights analogous to the position of the Malay as they are being conferred bumiputra status enshrined in Federal Constitution of Malaysia. Such an identity, on the contrary, has resulted in the dilution of not only the traditional culture of the local natives, but also the Chinese. Thus, many argued that the Sino-Native identity could contribute significantly to the strengthening of any political party's grips over Malaysian politics by the manipulation of such an identity. Some even suggest that the emergence of Sino-Native has further inclined the politicians towards identity politics in this country. These debates raise hypothetical issues in which this paper interested to address from the lens of Sabah in Malaysia by focusing on the question of a) what exactly are the concept of Sino-Native and identity politics in Sabah, b) how the Sino-Native has impacted the development of identity politics in Sabah, Malaysia, and c) what are the unfavourable impacts of Sino-Native addition into the growing of identity politics activities in Sabah, Malaysia. The paper

concluded by recommending some promising strategies to minimize these unfavourable impacts of Sino-Native inclusion into the growing of identity politics activities in Sabah, Malaysia.

Keywords: *Identity Politics, Sino-Native, Sabah, Malaysia*

Introduction

Sabah, the easternmost state of Malaysia, is renowned for its rich cultural diversity and complex social dynamics (Appell, 1976; Pugh-Kitingan, 1989; Miyamoto, 2008; Sadiq, 2009). Among its numerous ethnic groups, the community described by Esther Sinirisan Chong (2018) as the “people born from mixed marriages between Chinese immigrants and Sabah natives¹”, have played a pivotal role in shaping the region's identity politics. This intersection of Sino-native identities has significant implications for political engagement, cultural preservation, and social cohesion in Sabah. thus, understanding the impacts of these interactions is essential to grasp the broader narrative of identity politics in Malaysia, particularly in the context of its multi-ethnic landscape of Sabah.

Scholars such as Lee (1965) suggests that the historical roots of Sino-native relations in Sabah can be traced back to the early 15th century when Chinese traders first arrived in the region. Their migration continued in waves, particularly during the British colonial period, which saw an influx of Chinese laborers and merchants. These communities established themselves in various sectors, contributing significantly to the local economy. Over time, the Chinese identity became intertwined with the indigenous cultures, leading to a unique socio- political environment where ethnic affiliations often influenced political allegiances and social interactions. This in turn made the interplay between the Sino and native communities in Sabah has given rise to a complex matrix of identity politics. On one hand, the Chinese population, primarily from various dialect groups such as Hakka, Cantonese, and Hokkien, has sought to assert its identity and rights within the Malaysian political framework, particularly in Sabah. This pursuit is often contrasted with the indigenous communities' quest for recognition and empowerment, rooted in their historical presence and claims to land and resources. Consequently, just like what Chin (2021) described as the impacts of political Islam and *ketuanan Melayu*, the emergence of Sino-Native made identity politics in Sabah emerges as a dynamic and multifaceted arena (Bromeley & Simon, 2023), where both groups, the Sino and Native, negotiate their positions, often leading to both cooperation and contention.

The post-independence era marked a significant turning point in the development of identity politics in Sabah. The formation of the Malaysian federation in 1963 brought about new political realities that necessitated a re-evaluation of ethnic identities and representation (Ationg, 2020). For the Sino community, scholars and researchers such as Brown (2009), Danny (2012), Goh Chun Sheng (31 January 2023), and Bromeley and Simon (2023) portrays that the challenge was to maintain their cultural heritage while navigating a political landscape dominated by the Malay majority. This led to the emergence of Chinese political parties, such as the United Sabah Chinese Communities Association (USCCA), which aimed to advocate for the rights and interests of the Chinese population within the context of Malaysian politics.

Simultaneously, the indigenous communities of Sabah began to organize themselves politically, forming parties like the United Pasokmomogun Kadazandusun Murut Organisation

¹Sino-Native’ was introduced in 1951 as a label to describe a ‘new category’ of people in Sabah

(UPKO) to address their concerns regarding land rights, cultural preservation, and political representation. This parallel development highlighted the need for both Sino and native communities to articulate their identities and aspirations within a framework that acknowledged their distinct histories and contributions. The influence of Sino-native interactions on identity politics is further exacerbated by socio-economic factors. Scholars such as Danny (2012) suggests that Chinese communities in Sabah have historically been associated with commerce and entrepreneurship. Thus, Though, identity politics has been less significant here in Sabah and far less compared to West Malaysia (Jehom, 2002), it led to economic disparities that sometimes fuel tensions with indigenous populations. The perception of economic advantages held by the Chinese has, at times, resulted in resentment from native groups, who feel marginalized in the economic landscape. This economic disparity has become a focal point in identity politics, where issues of equity, access to resources, and socio-economic rights are passionately debated.

Moreover, the rise of Malaysian nationalism in the late 20th century added another layer to the complexities of identity politics in Sabah. National policies favoring the Malay- Bumiputra majority, such as the New Economic Policy (NEP), were often viewed with suspicion by the Sino community, who felt their rights were being undermined. In response, Chinese political organizations began to emphasize their cultural heritage and the importance of maintaining their identity, which in turn prompted indigenous groups to reaffirm their own cultural narratives and political claims. In the 21st century, the dynamics of Sino-native relations continue to evolve in the face of globalization, migration, and changing socio- political landscapes. The increasing influence of social media and digital platforms has facilitated new forms of political engagement and identity expression. This technological shift has allowed for greater visibility of issues related to ethnic identity, enabling marginalized voices to be heard and fostering dialogues that transcend traditional ethnic boundaries (Ramasubramanian, 2016).

Furthermore, the younger generations of the Sino-Native community are increasingly questioning historical narratives and seeking a more inclusive political discourse that reflects the realities of contemporary Sabah. This generational shift underscores a broader trend toward intersectionality in identity politics, where individuals embrace multiple identities and advocate for a more pluralistic society that values diversity. As Sabah continues to navigate its identity politics, the impacts of Sino-native remain significant. The need for collaborative efforts in addressing shared challenges, such as environmental sustainability, economic development, and social justice, presents opportunities for both communities to forge a new narrative that prioritizes unity while respecting individual identities. Despite that, a question arises by now becomes how exactly the Sino-native has impacted on identity politics in Sabah. This paper presents a discussion on the intricate relationships between ethnic groups within a multi-ethnic framework. The historical context, socio-economic dynamics, and political aspirations of communities in this land have shaped a unique landscape where identity politics is continually negotiated. Accordingly, as Sabah moves forward, understanding these interactions will be crucial in fostering a harmonious society that celebrates its diversity while addressing the needs and aspirations of all its citizens. The ongoing evolution of identity politics in Sabah serves as a reminder of the importance of inclusive dialogues and collective efforts in creating a shared future, thus it is, by now, become vigorous to scrutinize the relationship between the Sino-Native and the development of identity politics in Sabah.

Problem Statement

The arrival of immigrants in Sabah, Malaysia, has significantly influenced the region's identity politics (Sadiq, 2009; Ationg, 2020), and this includes the emergence of Sino-native communities. This phenomenon raises critical questions regarding the complexities of ethnic identity, social cohesion, and political representation in a multi-ethnic society. As waves of immigrants, particularly from China, settled in Sabah over centuries (Danny, 2012; Kassim, 2009), they brought distinct cultural practices, economic contributions, and social dynamics that have both enriched and challenged the existing indigenous populations. The central problem lies in understanding how the Sino-native communities have shaped identity politics in Sabah, resulting in both cooperation and conflict among ethnic groups. The historical context reveals that while the Sino-native contributed to the economic and social development of Sabah, their presence also led to perceived political manipulation for maintaining power among the political actors. Such an activity led to the firming up of identity politics as it has manifested in the form of feeding and manipulation of inclusive identity to win election.

Sino-native is an inclusive identity and can be grouped into a larger native community as the Article 2(1) Interpretation (Definition of Native) Ordinance (Sabah Cap. 64)² has set the conditions to be recognized as a citizen Sabah as; (a) Anyone who is a resident of this state whose parents are both is from the natives of Sabah or; (b) Anyone who is a permanent resident in the state of Sabah and becomes a member indigenous community or at least one of the they his parents or his ancestors are indigenous like in item (a) or; (c) Anyone who is a permanent resident of Sabah who is a tribe Suluk, Kagayan, Simonol, Sibutu or Ubian or residents indigenous to the state of Sarawak, and Brunei who have lived for a long time in the indigenous community of Sabah for a period of three consecutive years prior to claiming rights as indigenous residents, behave well throughout the period and stay permanently at Sabah with no time limit under the provisions of the Immigration Act 1959/1963. Provided that if one of his parents has living in Sabah as well as being alive or dead or presumed dead dies in that state, then the required period is reduced to two years only or; (d) Any permanent resident who is an indigenous resident Sabah for the Republic of Indonesia or Sulu residents from the Islands Sulu and the residents of Malaya and Singapore, have stayed in Sabah and become a member of the Sabah indigenous community continuously for a period of five years prior to the date application to become an indigenous resident, of good behavior throughout the said period and stay in Sabah for an unlimited period under any provision of the Immigration Act 1959/63³.

The Native Courts Ordinance (Sabah Cap. 86), Article 5(4) has also stated that "For the purpose of this section the word "native" shall be the meaning assigned thereto in the Interpretation (Definition of Native) Ordinance and shall further include any person within Sabah one at least of whose parents was a member of a people indigenous to Brunei, Sarawak, the States of Malaya, Singapore, the Cocos – Keeling Islands, Indonesia or the Sulu group of the Philippine Islands". Apart from that, Article 161A (6b) of the Federal Constitution⁴ also notes that a Bumiputera (indigenous) for the state of Sabah is "a citizen and it is a descendant of someone from an indigenous race in Sabah, and has born (whether or not on or after Malaysia Day) in Sabah or his father, at the time of his birth, was domiciled in Sabah". That it, for this legal reason, Sino-native is certainly can be categorised as the native of Sabah (Herman Luping, 05 December 2010).

While it is by now clear that the Sino-native is referring to one who is being part Chinese and

² Interpretation (Definition of Native) Ordinance (Sabah Cap. 64) 1995. Government Printer: Sabah

³ Immigration Act 1959/1963 (Act 155) & Regulations and Orders & Passports Act 1966 (Act 150), 1999. Kuala Lumpur: International Law Book Services

⁴ Perlembagaan Persekutuan, 1983. Kuala Lumpur: International Law Book Services

part native, or those who born of mixed-parentage and that with such an identification, they should enjoy special rights analogous to the position of the Malay as they are being conferred bumiputra status enshrined in Federal Constitution of Malaysia. Despite the privilege, however, such an identity has resulted in the dilution of not only the traditional culture of the local natives, but also the Chinese. Also, the Sino-Native identity could contribute significantly to the strengthening of any political actor's grips over Malaysian, particularly in Sabah politics by the manipulation of such an identity. It is also argued that in the milieu of democratic politics has further inclined the politicians towards identity politics in this country for their political mileage. This hypothetical argument is the area in which this paper interested to address from the lens of Sabah in Malaysia by focusing on the question of a) what exactly are the concept of Sino-Native and identity politics in Sabah, b) how the Sino- Native has impacted the development of identity politics in Sabah, Malaysia, and c) what are the unfavourable impacts of Sino-Native addition into the growing of identity politics activities in Sabah, Malaysia. The paper concluded by recommending some promising strategies to minimize these unfavourable impacts of Sino-Native inclusion into the growing of identity politics activities in Sabah, Malaysia.

Objective of the Study

The general objective of this exploratory study is to investigate the relationship between Sino-native identity and the development of identity politics in Sabah, Malaysia since the formation of Malaysia in 1963. Specific objectives of the study are stated as follows:

1. To determine the concept of Sino-Native and identity politics in Sabah,
2. To explore the Sino-Native impact in the development of identity politics in Sabah, Malaysia, and
3. To scrutinize the unfavourable impacts of Sino-Native addition into the growing of identity politics activities in Sabah, Malaysia.

Approach to the Study on Identity Politics in Sabah

While the study on the significance relationship between Sino-native and the development of identity politics in Sabah, Malaysia is of necessary for political harmony, understanding what exactly is the method used for the study is crucial. Accordingly, this study employs a qualitative research design to explore how Sino-native communities have shaped identity politics in Sabah. Qualitative research design is a research approach that gathers information from secondary sources and participants' experiences, perceptions, and behavior (Korstjens & Moser, 2018; Tenny, Brannan & Brannan, 2024) aim at answering the questions of how and whys instead of how many or how much. This research approach generally be structured as an impartial study, purely relying on qualitative data. Therefore, this study utilizes a case study approach to provide an in-depth understanding of the complex interactions between Sino-natives and the development of identity politics in Sabah. As it aims at providing a comprehensive understanding of the role of Sino-native communities in shaping identity politics in Sabah, the study applies document analysis, which involves analysis of historical records⁵ and interviews with key informants⁶. It is also stressed that acknowledging the potential biases in qualitative research and strive for a balanced representation of views.

⁵ Refers to reviews of historical texts, government documents, and archives related to Sino-native immigration and settlement patterns in Sabah

⁶ The key informants comprise of with local political leaders, community representatives, and academics specializing in politics studies in Sabah.

Moreover, conceding that the findings is specific to Sabah and may not be easily generalized to other contexts, all information were gathered from the secondary sources, apart from the historical information gathered from official reports, books, journal and media reports, a total of five key informers who have significant insights or experiences related to Sino-native communities and identity politics were selected using purposive sampling. Prior to the interview, all key informants were fully informed about the study's purpose and provide their consent before participating. All information gleaned was analysed thematically.

Finding 1: The Origin of Sino-Native in Sabah

Before the Sino-native impacts on the development of identity politics can be made any further, it requires an understanding on the origin of Sino-native in Sabah, Malaysia and ask why political actor has become interested in relying on identity politics for their political mileage in this land? This requires to first an explanation of the origin of Sino-native and identity politics in Sabah, Malaysia. Therefore, to clearly understand the origin of the Sino-native, it required an explanation on how the Chinese community exist in Sabah by looking at the secondary sources. Scholars generally in agreement that the Chinese communities eventually exist in Sabah due to migration. Scholars such as Danny (2012) and Rosdianah (2018) portrays that the migration of Chinese communities into Sabah, formerly known as North Borneo, represents a significant chapter in the region's history. Situated in the northeastern part of Borneo, Sabah has long been a melting pot of cultures and ethnicities (Wan Shawaluddin, Marja & Ramli, 2010). The Chinese migration to Sabah began centuries ago and has left an indelible mark on the region's economy, society, and cultural landscape (Danny, 1999). Danny (1999), thus, stressed that Chinese migration to Sabah has deep historical roots. It began during the imperial periods of Chinese history, particularly during the Tang (618–907 AD) and Song (960–1279 AD) dynasties, when maritime trade between China and Southeast Asia flourished. Over the centuries, Chinese merchants and traders established relationships with local rulers and communities across the region, including those in Borneo. However, it was during the 19th and early 20th centuries, amidst political and economic turmoil in China, that migration surged. The collapse of the Qing Dynasty, civil unrest, famine, and foreign invasions pushed many Chinese to seek better opportunities abroad.

Several factors influenced the migration of Chinese to Sabah, including economic opportunities, political instability and poverty in China, and clan and family networks. In the context of economic opportunities, historical documents suggests that in the late 19th century, the British North Borneo Chartered Company, which had established control over Sabah, sought to develop the region's economy. They recognized the potential for agriculture, timber, and mineral extraction. To realize these economic ambitions, they encouraged the migration of laborers and entrepreneurs from China, particularly from southern provinces such as Fujian and Guangdong. Many Chinese migrants were attracted by the prospect of working in plantations, particularly in the rubber industry, and by opportunities in mining and trade. Apart from that, China experienced significant political upheavals in the 19th and early 20th centuries, including the Taiping Rebellion (1850–1864), the First Opium War (1839–1842), and the fall of the Qing Dynasty in 1912. These events, coupled with widespread poverty, drove many Chinese to leave their homeland in search of stability and prosperity in Southeast Asia, including Sabah. Moreover, Chinese migration to Sabah, like other parts of Southeast Asia, was also often facilitated by existing clan and family networks. Early migrants who had established themselves in Sabah would often help relatives and fellow villagers emigrate, creating a chain migration effect. These networks provided social and financial support, making the transition to life in Sabah easier for new arrivals.

Historical records, as portrayed by Lee (1965), Lee (1968), and Sin-Fong, H. (1975), appeared that the Chinese who migrated to Sabah were not a monolithic group; they came from various dialect groups, including the Hakka, Cantonese, Hokkien, Teochew, and others. Each group brought with them their own customs, dialects, and traditions, which shaped the development of distinct Chinese sub-communities within Sabah. The Hakka were among the earliest and most prominent Chinese groups to settle in Sabah. They were known for their adaptability and played a crucial role in the agricultural sector, particularly in rubber plantations and later in the timber industry. Many Hakka migrants also became successful entrepreneurs in various trades. The Cantonese and Hokkien migrants were predominantly involved in commerce, establishing businesses in the towns and cities of Sabah. They became prominent in sectors such as retail, hospitality, and trade, and were instrumental in the development of urban centers like Kota Kinabalu (formerly Jesselton) and Sandakan.

The Chinese migrants and their descendants have played a critical role in the development of Sabah's economy and society (Danny, 1998; Ung-Ho, 2000).). The Chinese in Sabah have been pivotal in the region's economic growth, particularly in the agricultural and commercial sectors. Their involvement in the rubber industry in the early 20th century helped drive the expansion of plantations in Sabah. Over time, Chinese entrepreneurs diversified into other sectors such as timber, real estate, banking, and retail, contributing to the modernization of Sabah's economy. The Chinese traders and entrepreneurs have also contributed to the urbanization of Sabah by establishing businesses in key towns and cities. They were also involved in building infrastructure such as roads, schools, and hospitals, often in partnership with colonial authorities or through their own communal efforts. Chinese-majority towns like Sandakan became important commercial hubs in the region. In addition, the Chinese migrants placed a high value on education, and this is reflected in the many Chinese-medium schools established in Sabah. These schools have provided generations of Chinese and non-Chinese Sabahan children with access to education. Additionally, Chinese community associations have played a significant role in supporting the welfare and social needs of their communities, fostering a strong sense of identity and mutual support.

Today, the Chinese community in Sabah remains an influential and vibrant part of the state's multi-ethnic fabric. While Chinese-Sabahan identity has evolved over time, particularly through intermarriage and interaction with other ethnic groups, the community continues to maintain its cultural distinctiveness. Many Chinese-Sabahans are bilingual or trilingual, speaking their ancestral dialects as well as Bahasa Malaysia and English. Politically, the Chinese in Sabah have also played a significant role, participating in both state and national politics. Although a minority in terms of population, they have been active in advocating for the rights and interests of their community within the broader framework of Sabah's multi-ethnic society. Most importantly, the advent of Chinese in Sabah, Malaysia has contributed in the emergence of Sino-native communities. The question now became, what exactly is the definition of both Sino-Native and identity politics? The following presents a discussion the concept of Sino-Native and identity politics.

The Concept of Sino-Native

As explained, the Sino-Native is an inclusive identity and can be grouped into a larger native community as pronounced by the Article 2(1) Interpretation (Definition of Native) Ordinance (Sabah Cap. 64) and The Native Courts Ordinance (Sabah Cap. 86), Article 5(4). Historically, Danny further explained that "*In the 1951 census, the Colonial Government of North Borneo*

introduced a new category of people, Sino-Native. In the census, a total of 6,468 persons were classified under that category. The same category was maintained in future censuses, except for 1981. These figures, though marginal compared to the more established categories such as Kadazan, Dusun, Bajau, Murut and Chinese, are crucial in trying to understand the interrelations between hybridity and ethnic identity in Sabah. Of late, the question of hybrid community has come in play with the question of native rights, especially in matters pertaining to inheritance of landholdings that are classified under Native Title. These land titles, issued by the Lands Office since the introduction of the Land Ordinance of 1903, were aimed at alienating lands and preserve them solely for the usage of natives. Foreigners, including non-native (or indigenous) local population such as Chinese, were prohibited from purchasing such land. However, the law also provided that offspring of a mixed marriage between a native and a nonnative, including a Chinese, would be automatically accepted as native - hence the categorization of Sino-Native. As Native Land titles could only be transacted between natives, they were not valued at open market price and therefore were considered much cheaper - hence the attraction of wanting to be categorized as a native in order to qualify for such perks. However, by the 1980s, many who were categorized under this group faced problems in having their Native Title properties being transferred to their subsequent generation. Especially affected were some offspring of a Chinese ancestor and a native female (in many cases, retaining Chinese surnames), whose native status being questioned and challenged, were not considered as natives by the state administration, and therefore not eligible to inherit properties reserved under Native Title. Under such conditions, it is obvious that the Sino-Native identity was being challenged, if not threatened, thus becoming a contested issue” (2012: 110). Accordingly, Mat Zin Mat Kib (2002), stressed that, as being half Chinese and half indigenous can be accorded special rights, just like the real indigenous, there are claims that it exists fraud simply to get the status of a Native. What makes such a status unique and manipulable its contribution in the consolidation of identity politics activities in Sabah, Malaysia. The following explains the concept of identity politics.

The Concept of Identity Politics

Identity politics refers to a political approach where individuals or groups advocate for political agendas, policies, and rights based on their particular identities, such as race, gender, ethnicity, sexual orientation, religion, or other social categories (Kauffman, 2001; Miller, 2021; Yancey, 2023). The core idea is that people who share certain characteristics may have distinct experiences of marginalization, discrimination, or privilege, and therefore require specific representation and policies that address their unique concerns. In identity politics, the emphasis is often placed on collective identity as a source of strength and empowerment. Supporters argue that focusing on identity helps highlight injustices faced by marginalized groups and promotes greater equality. However, critics argue⁷ that identity politics can sometimes be divisive, leading to fragmentation of society by focusing on group differences rather than shared commonalities. In fact, Weeks and Allen (2022) found that political actors often inclined in using identity politics for their political mileage and such a decision resulted in the growing of what Sheets, Rowling, Gilmore and Melcher (2022) calls ‘Us versus Them’ a situation where a state of antagonism between two groups, generally grounded on group affiliation noticeable. Apart from that, Yancey found that the “promotion of identity politics may lead to the potentially problematic psychological tendencies” (2023, p. 1245), as it let to the growing of desire for higher government spending, issue that Yancey described as one that

⁷ See Ationg, R. (2020). Political Elites and Ethnic Politics. United Kingdom: Scholar Publishing; Hashmi, R.S. (2014). Ethnic Politics: An Issue to National Integration (The Case of Pakistan). South Asian Studies: A Research Journal of South Asian Studies, 29(1, January – July), 345-361

“are consistently negatively related to lower well-being and mediate the ability of progressive political ideology to predict lower levels of well-being” (2023, p. 1245). Moreover, Hashemi (2014) argued that identity politics often led to the emergence of significant economic imbalance between the populations as the political elites made it as their tool for a divide and rule agenda. Overall, identity politics plays a significant role in shaping modern political movements and debates, particularly in the context of civil rights, social justice, and representation.

Finding 2: Sino-Native and the development of identity politics in Sabah, Malaysia

Sabah, a state in East Malaysia located on the northern tip of Borneo, is home to a unique and complex mosaic of ethnic groups, including Malays, indigenous peoples (collectively known as Bumiputera), and a significant population of Chinese origin (Shireen, 2021; King, 2017; Schulz, 2017; Alen Kee, July 25, 2011). Among the ethnic groups that have emerged from intermarriage between the indigenous people and the Chinese migrants is the Sino-Native community. The Sino-Native community in Sabah primarily originated from intermarriages between Chinese immigrants and indigenous peoples, particularly the Kadazan-Dusun, Murut, and Bajau communities (Irfan Ullah, Mokhtar Saidin & Bobby Anderson, 2018; Wong, 2000). These marriages, which became more prevalent in the late 19th and early 20th centuries, were largely facilitated by the migration of Chinese men who arrived in Sabah as laborers, traders, and entrepreneurs. During this time, local scholars such as Danny (2012) portrays that it was common for Chinese male migrants to marry local indigenous women, as there were fewer Chinese women in the region.

In 1997, Rosnah Ismail published her articles on marital relationship among Kadazandusun couples and sino-kadazan couples, where she found that intermarriages between the Chinese and the natives becomes increasingly prevalent since the past decades of the 20th century. The offspring of these intermarriages formed a distinct community known as the Sino-Native, which represents a fusion of Chinese and indigenous cultures. Over the years, the Sino-Native community has grown to be an integral part of Sabah’s social fabric. This blending of identities has created a hybrid cultural space, where both Chinese and indigenous heritage are valued, leading to a unique set of traditions, languages, and beliefs (Staal, 1923). This, among other, led to the development of identity politics in this land. In general, in Sabah, identity politics, as described by the key informer of the study, refers to the way in which different ethnic and cultural groups, including the Sino-Native community, engage in political discourse and action to assert their unique identity, demand representation, and protect their interests. Such an argument is relevant given that Sabah’s political landscape is characterized by the negotiation of power and resources between its diverse ethnic communities, each vying for recognition, development, and equity within the framework of Malaysia's multicultural society (Puyok, 16 September 2024).

Scholars such as Mukminin (2023) generally explained that for the Sino-Native community, questions of identity and political representation are complex, and the complexity is applicable to the Sino-Native in Sabah. When ask, the key informer⁸ of the study opined that as descendants of both Chinese and indigenous heritage, they straddle two worlds, often identifying with both the Chinese and indigenous sides of their ancestry. This dual identity creates a dynamic that is both empowering and challenging in terms of political and social participation. Furthermore, the Sino-Native also encountering the issue of dual identity and

⁸ Interview with the key informer at her age of 51 years old in Kota Kinabalu, Sabah on 1 June 2024

political challenges as they often confusing whether they are Chinese or indigenous. This arises due to the concept of Bumiputera. In Malaysia, the Bumiputera (literally "sons of the soil") are accorded special privileges and rights under the Malaysian constitution, including land ownership, education, and economic opportunities (Mohamed, Ghazalli & Mohamed, 2022; Hwok-Aun, 4 February 2021; Floyd, 2019; Balasubramaniam, 2007). Indigenous people of Sabah are classified as Bumiputera, enjoying these benefits, while the Chinese, who are classified as non-Bumiputera, do not. Sino-Natives, depending on how they identify themselves, may fall into either category. In many cases, the key informant⁹ of the study suggest that, they identify as Bumiputera by emphasizing their indigenous ancestry, thereby benefiting from state privileges. However, those who lean more towards their Chinese heritage may not receive these benefits, raising questions about the role of personal and collective identity in determining one's social and political status. This ambiguity in identity also means that the Sino-Native community must navigate the tension between being part of both indigenous and Chinese political agendas.

Furthermore, the emergence of Sino-Native in Sabah also be associated with the issues of political representation and identity. The shared view among the key informants of this study suggests that Sino-Native cannot be discounted in the context of political representation and identity politics. In Sabah, identity politics is driven by the state's multi-ethnic composition. Political parties in Sabah have traditionally drawn support along ethnic lines, with specific parties representing the interests of indigenous groups, Malays, or Chinese (Hazis, 2018; Ibrahim, 2013; Lim, 2013; Lim, 2008; Ismail Yusoff, 1997; Appell & Harrison, 1968). For the Sino-Native community, political affiliation and representation can be complicated. While they may share concerns with the indigenous community over Bumiputera rights and regional autonomy, they are also connected to the Chinese community, which historically has focused on issues of economic equality, education, and citizenship. Thus, some Sino-Natives find themselves politically aligned with indigenous political movements, such as the Kadazan-Dusun-based parties, while others are drawn to the Chinese-dominated parties that advocate for business interests and minority rights in the broader Malaysian context. However, their mixed heritage allows them to play a bridging role between these groups, contributing to a more inclusive and integrated form of politics in Sabah. This has, thus, characterises the development of identity politics activity in Sabah. The broader context of identity politics in Sabah has been shaped by the interaction between indigenous rights, national identity, and regional autonomy (Loh, 2010). Sabah has a long history of advocating for greater autonomy within the Malaysian Federation, which has in turn influenced the development of identity-based political movements in the state.

In line with the development of identity-based movement, all key-informers of this study of the opinion that Sabah politics is also has never been estranged to the issues of indigenous rights and regional autonomy. Indigenous groups in Sabah have historically advocated for greater recognition of their rights and autonomy, both from the federal government in Kuala Lumpur and from the state government. Since Sabah's inclusion in Malaysia in 1963, indigenous communities have fought to maintain control over their land, resources, and cultural practices. This has been formalized in the concept of Bumiputera rights, which aim to protect indigenous people from economic and political marginalization (Thillainathan & Cheong, 2024; Chin, 2014; Ongkili, 2003; Mason & Omar, 2003). The Sino-Native community, particularly those identifying with their indigenous heritage, has aligned with these political movements, supporting calls for land rights, cultural preservation, and equitable

⁹ Interview with the key informant at her age of 47 years old in Penampang, Sabah on 13 August 2024

development. At the same time, they maintain ties with the Chinese community, which advocates for fairer economic policies and more inclusive governance.

But what exactly is the role of Chinese communities or the Sino-Native communities in identity politics activities in this land. Majority of the key informers of this study explained that the Chinese migrants and their descendants have played a crucial role in Sabah's economic development, particularly in trade, commerce, and agriculture. However, their classification as non-Bumiputera has often placed them at a disadvantage in terms of political representation and access to state benefits. As a result, Chinese communities in Sabah have focused their political activism on issues such as citizenship, business rights, education (including Chinese-language schools), and equal opportunities. They, the key informers of this study, explained that the Sino-Native community's connection to the Chinese identity makes them part of these broader movements for equality, while simultaneously benefiting from their status as indigenous. In this sense, Sino-Natives are uniquely positioned to mediate between indigenous and Chinese political concerns, advocating for a more balanced and inclusive form of identity politics in Sabah.

In explaining such an argument, the key informer at his age of 70¹⁰ years old said, *“political parties in Sabah have historically drawn their support from specific ethnic communities. The Kadazan-Dusun-dominated Parti Bersatu Sabah (PBS) and United Pasokmomogun Kadazan Organization (UPKO), for example, have long championed indigenous rights and greater autonomy for Sabah. Chinese-based parties, on the other hand, such as the Sabah Progressive Party (SAPP) and the local branches of national Chinese parties, have focused on issues affecting the Chinese community”*. What this, now, hinted is that the Sino-Native politicians and leaders often find themselves navigating between these political camps, advocating for a balance between indigenous rights and the broader concerns of Chinese- Sabahans. Their involvement in both sides of the political spectrum underscores the fluidity of identity politics in Sabah, where ethnic and cultural identities are not rigid but overlap and interact in complex ways.

Therefore, it is relevance to portrays that the Sino-Native community in Sabah embodies the complexity and dynamism of identity politics in the state. With roots in both indigenous and Chinese cultures, Sino-Natives navigate a hybrid identity that straddles the political concerns of both groups. This duality gives them a unique perspective in the ongoing negotiations around indigenous rights, economic equity, and regional autonomy that characterize Sabah's political landscape. As Sabah continues to develop within the framework of the Malaysian Federation, the Sino-Native community's ability to bridge the gap between its indigenous and Chinese components highlights the potential for a more inclusive and multifaceted approach to identity politics. This ongoing interplay of identities, driven by the need for political representation and social equity, will continue to shape the future of Sabah and its diverse communities.

Finding 3: The unfavourable impacts of Sino-Native addition into the growing of identity politics activities in Sabah, Malaysia

As portrayed, the Sino-Native has impacted the development of identity politics activity in Sabah, Malaysia. In general, the emergence of a Sino-native identity has led to the enrichment

¹⁰ Interview with the key informer in Tamparuli, Sabah on 29 September 2024.

of demographic looks in Sabah. On the contrary, however, the existence of Sino- Native has also had an unwanted effect, especially in the context of manipulation of social identity for political interests among political actors. It has not only have diluted both traditional native cultures and Chinese cultural practices, but it also resulted in the contested cultural landscape. In explaining such an unfavourable impacts, the key informers aged 47 from Tawau who was interviewed in Tuaran on September 10, 2024, stressed that, *“the assimilation of Sino-Native identities led to the erosion of traditional practices among indigenous groups. As intermarriage and cultural exchanges occur, younger generations may prioritize a hybrid identity over the preservation of distinct native customs, rituals, and languages. Similarly, the influence of local customs can lead to the dilution of Chinese traditions. As Sino-Natives adopt elements from indigenous cultures, certain Chinese practices may diminish, resulting in a blended culture that may not fully represent either group. For that reason, many individuals identifying as Sino-Native, there can be a struggle to reconcile their dual heritage. This can lead to feelings of alienation from both the local communities and the broader Chinese diaspora, complicating cultural identity and belonging.”*

Most importantly, the addition of Sino-Native in the social identification consortia has led to manipulation of social groupings among the political actors. The key informer of the study aged 51¹¹, who works as an academic in a local university, when asked of whether the Sino-native have brought about unfavourable impacts, he said *“political parties often exploit the Sino-Native identity to form strategic alliances. By appealing to this demographic, parties can garner support from a broader base, thus strengthening their political position. This can lead to the prioritization of policies that favor the interests of Sino-Native communities. This certainly suggests that the manipulation of Sino-Native identity can become a tool in identity politics, where parties capitalize on ethnic sentiments to rally support. This can reinforce divisions within Sabah society, as parties may frame political issues in terms of ethnic identities, leading to increased polarization. Political entities may also seek to represent Sino-Native interests in governance. This can manifest in the promotion of policies that celebrate this identity, but it may also risk marginalizing more traditional narratives of both the indigenous groups and the Chinese community, thereby further complicating cultural dynamics.”*

Furthermore, Jason Loh Seong Wei (13/04/2021) opined that political actors' tendency in using social identity for their political tool has resulted in the growing of national disunity in this country. Just like in the case with the findings of a study by Yancey (2023), in Sabah, the development of identity politics generally led to the promotion of potentially problematic psychological tendencies, when the desire for higher government spending grew due to the need to ensure demands from certain parties are fulfilled. Thus, it resulted in the emergence of significant economic imbalance between the populations as the political elites made it as their tool for a divide and rule agenda.

That's it, given the unfavourable impacts inclination among the politicians in identity politics manipulation, ending such an inclination is crucial. Ending politicians' manipulation of social identity involves a multifaceted approach that fosters accountability, transparency, and community engagement. Among the strategies to consider is by promoting political education (awareness campaigns - educate the public about identity politics and manipulation tactics through workshops, seminars, and social media campaigns; Critical thinking - encourage critical thinking in schools and communities, enabling individuals to analyze political rhetoric

¹¹ Interview with the key informer at his age of 62 years old in Kota Kinabalu, Sabah on 7 July 2024

and recognize manipulation), enhance transparency (open data initiatives - advocate for transparency in political funding and decision-making processes to reduce opportunities for manipulation; public access - ensure that information regarding political agendas, affiliations, and community engagement is readily accessible to citizens), encourage inclusive policies (diversity representation - push for policies that promote diversity and inclusion within political parties, ensuring that all voices are represented and not just those that can be manipulated; civic engagement - create platforms for genuine civic engagement where communities can voice their concerns and needs without political interference); strengthen accountability mechanisms (regulatory bodies - establish or empower independent bodies to monitor political activities and hold politicians accountable for their actions; whistleblower protections - provide protections for individuals who expose unethical practices within political parties), foster community building (cross community dialogues - organize discussions between different social groups to build understanding and counter divisive narratives; grassroots movements - support grassroots movements that emphasize unity and shared goals over identity-based divisions), media literacy (training programs - develop media literacy programs that help citizens critically evaluate news sources and political messaging; fact checking initiatives - encourage independent fact-checking organizations to combat misinformation and provide accurate information to the public), and empower local leadership (local candidates - support local candidates who prioritize community needs over identity manipulation; community leaders - encourage community leaders to advocate for unity and discourage divisive tactics used by politicians). It is hoped that by fostering a politically educated and engaged citizenry, promoting transparency, and encouraging inclusive practices, communities can reduce the impact of social identity manipulation by politicians. It's essential to create a culture of accountability and civic responsibility, empowering individuals to recognize and resist divisive tactics.

Conclusion

Overall, the study has made an essential finding on the unique relationship between Sino-native and the development of identity politics in Sabah, Malaysia, particularly with regards to the survival of politicians there. It shows how the political actors by either directly or indirectly intensifying identity politics influence by concentrating on the way the 'rakyat' express their social identification and subsidize to political contestation in this land. At the core, it portrays that the arrival of Chinese immigrants in Sabah, Malaysia creates opportunities for cultural fusion and new forms of identity namely Sino-Native. This certainly should have provided opportunity for consolidation of local economic area measured through elements of cultures and populations size. Having said that, however, it appeared that the emergence of Sino-Native identity poses challenges as it not only diluted the traditional practices, but is also provides room for political manipulation of social identity. For that reason, the study proposed that a multifaceted approach of fostering accountability, transparency, and community engagement aimed at averting political actors from operating social identities for their political interests is crucial. Accordingly, there is latent for further investigation in this area. One further research is a more thorough and systematic examination of how exactly such an approach can be effectively operated within the framework of modern democracy, a political system described by Welzel (2021) as a system that focuses on freedom, a freedom that entitle society to control their own private lives and to have a voice and a vote in the civic domain.

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ANALISIS FAKTOR-FAKTOR MEMPENGARUHI KOMUNITI KE ARAH KEHIDUPAN NORMA BAHARU

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Abstract: Tahun 2022 disifatkan sebagai tahun peralihan bagi Malaysia iaitu peralihan dari pandemik Covid-19 ke endemik. Peralihan ini bukan sahaja memberi kesan kepada individu malah turut menguji ketahanan institusi keluarga dan komuniti. Tujuan kajian adalah untuk mengetahui faktor-faktor yang mempengaruhi komuniti dalam mengharungi perubahan ke arah kehidupan norma baharu. Hasil penelitian menunjukkan bahawa terdapat lapan faktor yang mempengaruhi komuniti. Lapan faktor tersebut adalah hubungan kekeluargaan, hubungan ekonomi, hubungan kesihatan, hubungan keselamatan, hubungan komuniti, hubungan kerohanian, hubungan persekitaran, dan hubungan teknologi komunikasi. Kesemua faktor menunjukkan bahawa norma baharu membawa cabaran tersendiri kepada komuniti. Justeru, kesemua faktor ini perlu diberi penekanan dalam pembentukan strategi bersepadu ke arah pemerkasaan komuniti dalam norma baharu.

Keywords: COVID-19; Endemik; Norma Baharu; Komuniti

Pengenalan

Novel Coronavirus (2019-nCoV) atau Covid-19 adalah virus yang muncul empat tahun yang lepas. Virus ini telah menjangkiti hampir kesemua manusia di seluruh dunia. Rentetan daripada itu, Ketua Pengarah Pertubuhan Kesihatan Sedunia (WHO) mengumumkan Covid-19 sebagai wabak pandemik yang global kerana kadar jangkitan Covid-19 yang sangat tinggi (World Health Organization, 2020). Proses penyesuaian diri semasa dan selepas wabak pandemik bukanlah sesuatu yang mudah dengan pelbagai *Standard Operating Procedure* (SOP) baharu yang diperkenalkan oleh kerajaan.

Pembukaan semula aktiviti ekonomi dalam Fasa 1 Pelan Pemulihan Negara (PPN) pada Ogos 2021 merupakan permulaan untuk masyarakat kembali kepada gaya hidup normal bagi menyeimbangkan keperluan ekonomi dan keperluan kesihatan awam. Rentetan pembukaan semula aktiviti ekonomi tersebut, Malaysia telah mengisytiharkan peralihan ke fasa endemik pada 1 April 2022.

Semenjak pandemik Covid-19 melanda, komuniti setempat di Malaysia terpaksa menyesuaikan diri dengan 'norma baharu' yang sekaligus memerlukan perubahan cara hidup dengan begitu mendadak. Budaya kehidupan baharu yang sangat asing daripada masa sebelum

kewujudan pandemik memaksa komuniti setempat untuk beradaptasi dan menyesuaikan diri. Malahan, proses penyelarasan cara hidup ini mampu mencetuskan pelbagai cabaran daripada aspek ekonomi, sosial, emosi dan kesihatan. Justeru, norma baharu hakikatnya memberi kesan kepada kehidupan seharian dalam pelbagai aspek (Abdul Aziz, 2020). Justeru, kajian ini dijalankan bagi menganalisis ciri-ciri bagi penerapan budaya kehidupan norma baharu dalam kalangan komuniti di Malaysia.

Kajian Literatur

Norma Baharu Pasca Pandemik Covid-19

Norma baharu adalah terma bagi penguatkuasaan undang-undang yang diperkenalkan untuk mengekang penularan wabak Covid-19 (Harun et al., 2021). Justeru itu, Harun et al. (2021) menerangkan bahawa perubahan sosial yang berlaku dianggap sebagai *uruf* baharu yang perlu dipatuhi oleh komuniti walaupun perubahan sosial tersebut seolah-olah mendatangkan kemudharatan mahupun kesulitan untuk mempraktikkannya. Ini adalah kerana *uruf* baharu tersebut adalah bertujuan bagi menjamin kemaslahatan dalam kalangan komuniti bagi membendung penularan wabak pandemik.

Menurut Mochammad Sahid et al. (2020), norma baharu adalah kesan yang terhasil daripada kejadian pandemik Covid-19. Manakala, Dewan Bahasa dan Pustaka pula mengistilahkan norma baharu sebagai peraturan baharu yang diterima atau diguna pakai oleh komuniti disebabkan berlakunya sesuatu perkara seperti pandemik penyakit berjangkit (Berita Harian, 2021).

Setiap benda hidup di muka bumi melalui proses penyesuaian dan adaptasi untuk memenuhi keperluan, mencapai kesejahteraan diri dan keamanan sejagat serta membantu makhluk untuk mencapai keperluan diri dan persekitaran untuk kelangsungan hidup (Abdul Aziz, 2020). Walaupun begitu, menurut Abdul Aziz (2020) lagi, penyesuaian diri juga membawa kepada gangguan psikologi seperti tekanan, kebimbangan, murung, cemas, gagal mengawal kemarahan, kekeliruan minda dan masalah tingkah laku sekiranya tidak diurus dengan baik. Jelas bahawa impak penyesuaian sendiri yang baik dalam norma baharu adalah terhasil berdasarkan beberapa faktor (Abdul Aziz, 2020; Mochammad Sahid et al., 2020).

Indeks Kesejahteraan Malaysia

Konsep kesejahteraan hidup digunakan oleh pihak pentadbiran Malaysia bermula pada tahun 2013 bagi menggantikan Indeks Kualiti Hidup Malaysia (IKHM) yang menggunakan konsep kualiti hidup (Nadira et al., 2015). Menurut Md. Ali et al. (2021), IKHM digunakan sebagai petunjuk bagi memahami perubahan dan kemajuan kualiti hidup rakyat yang merangkumi aspek fizikal, sosial, ekonomi dan psikologi.

Manakala, kajian Indeks Kesejahteraan Keluarga (IKK) dilaksanakan buat pertama kalinya oleh Lembaga Penduduk dan Pembangunan Keluarga Negara (LPPKN) pada tahun 2011. Pembentukan IKK 2011 merupakan kayu pengukur kepada tahap kesejahteraan keluarga di Malaysia yang mengambil kira tujuh domain utama iaitu hubungan kekeluargaan, ekonomi keluarga, kesihatan keluarga, keselamatan keluarga, keluarga dan komuniti, keluarga dan agama/kerohanian serta perumahan dan persekitaran. IKK 2011 menjadi asas pembentukan siri kedua kajian iaitu IKK 2016 yang merangkumi domain-domain yang sama dengan tambahan domain keluarga dan teknologi komunikasi (Laporan Indeks Kesejahteraan Keluarga Malaysia 2019, 2019).

Kemunculan Indeks Kesejahteraan Rakyat Malaysia (IKRM) 2013 adalah merupakan rentetan daripada Indeks Kualiti Hidup Malaysia yang dibuat sejak tahun 2000 hingga 2012 (Md. Ali et al., 2021). Fokus IKRM adalah kepada skop yang lebih luas agar merangkumi aspek kesejahteraan yang lain. Malahan, indeks ini menjadi penanda aras dalam penggubalan dasar dan program ke arah Malaysia mencapai negara maju berpendapatan tinggi yang inklusif dan mampan. IKRM meliputi lima komponen ekonomi iaitu pengangkutan, komunikasi, pendidikan, pendapatan dan pengagihan serta persekitaran kerja. Manakala terdapat sembilan komponen sosial iaitu perumahan, hiburan dan rekreasi, keselamatan awam, penyertaan sosial, tadbir urus, kebudayaan, kesihatan, alam sekitar dan keluarga. Bagaimanapun, tiada indikator agama dimasukkan dalam kajian IKRM dan IKRM memandangkan ia dilakukan terhadap rakyat Malaysia yang berbilang kaum dan agama.

Metodologi Kajian

Analisis deskriptif yang dijalankan dalam kajian ini adalah sebahagian daripada fasa kuantitatif dalam kajian *Mix Methods Research* (MMR). Secara keseluruhan, fasa kuantitatif melibatkan analisis deskriptif, korelasi dan akhirnya analisis faktor. Kajian ini menggunakan pensampelan bertujuan iaitu ketua keluarga yang menjawab soal selidik di seluruh Malaysia dipilih sebagai sampel kajian. Pemilihan responden dibuat kerana responden terlibat dapat membekalkan maklumat yang berguna mewakili komuniti dan dapat memberi input untuk memahami persoalan kajian (Creswell, 2008).

Responden Kajian

Sampel kajian bagi kaedah tinjauan dipilih menggunakan teknik pensampelan bertujuan dan hanya melibatkan ketua keluarga di negeri-negeri di Malaysia. Kajian tinjauan ini amat sesuai kerana pengkaji ingin mengutip maklumat mengenai pendapat, pandangan, sikap semasa, kepercayaan responden dan menyediakan maklumat kepada pembuat keputusan (Creswell, 2008). Seramai 653 ketua keluarga dari serata Malaysia terlibat dalam kajian. Manakala soal selidik digunakan bagi mendapatkan maklumbalas ketua keluarga tersebut. Menurut (Chua, 2006), soal selidik adalah satu bentuk instrumen atau alat formal yang digunakan bagi memperolehi maklumat secara langsung daripada responden berhubung sesuatu perkara yang hendak dikaji.

Instrumen Kajian

Terdapat dua bahagian di dalam instrumen kajian soal selidik ini iaitu profil ketua keluarga (Bahagian A) dan konstruk faktor kehidupan norma baharu pasca pandemik Covid-19 (Bahagian B). Ringkasan senarai konstruk dan bilangan item yang dipilih dapat dilihat dari Jadual 1 berikut:

Jadual 1: Konstruk dan Bilangan Item

Bahagian	Konstruk	Bilangan Item
A	Profil Ketua Keluarga	13
B	Hubungan Kekeluargaan	4
	Hubungan Ekonomi	4
	Hubungan Kesihatan	12
	Hubungan Keselamatan	5
	Hubungan Komuniti	5
	Hubungan Kerohanian	3
	Hubungan Persekitaran	8
	Hubungan Teknologi Komunikasi	3

Kajian melakukan tafsiran ke atas jawapan menggunakan julat nilai purata (Mohd Majid, 2000) seperti yang ditunjukkan dalam Jadual 2 berikut:

Jadual 2: Skala Interpretasi Purata

Purata	Interpretasi
1.00 – 2.33	Rendah
2.34 – 3.67	Sederhana
3.68 – 5.00	Tinggi

Sumber: (Mohd Majid Konting, 2000)

Responden menjawab soal selidik berdasarkan Skala Likert 5 mata di mana 5 = Sangat Bersetuju (SS), 4 = Setuju (S), 3 = Sederhana Setuju (M), 2 = Tidak Setuju (TS) dan 1= Sangat Tak Setuju (STS). Jadual 3.4 di bawah menunjukkan ringkasan soal selidik Bahagian B mengikut konstruk, bilangan soalan kajian dan nombor item.

Kesahan dan Kebolehpercayaan Instrumen

Kesahan kandungan bagi instrumen soal selidik dijalankan dengan bantuan 2 orang pakar. Kesemua soalan diperbaiki selaras dengan kesahan kandungan oleh pakar. Manakala, penentuan kebolehpercayaan dalam soal selidik dibuat dengan menggunakan pekali Alpha Cronbach (Coakes dan Steed, 2001) dan kebolehpercayaan setiap instrumen adalah berasaskan kepada konsistensi dalaman bagi pekali Alpha Cronbach (Pallant, 2010).

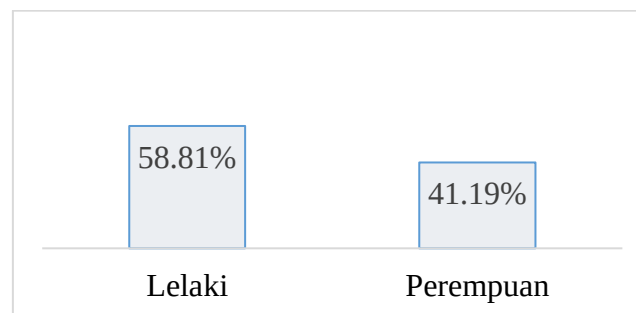
Jadual 3: Konstruk dan Bilangan Item

Bahagian	Konstruk	Pekali Alpha Cronbach
A	Profil Ketua Keluarga	-
B	Hubungan Kekeluargaan	0.864
	Hubungan Ekonomi	0.905
	Hubungan Kesihatan	0.886
	Hubungan Keselamatan	0.819
	Hubungan Komuniti	0.867
	Hubungan Kerohanian	0.716
	Hubungan Persekitaran	0.895
	Hubungan Teknologi Komunikasi	0.853
	Keseluruhan	0.939

Jadual 3 (di atas) menunjukkan skala interpretasi indeks kebolehppercayaan yang digunakan dalam kajian ini. Jadual tersebut menunjukkan bahawa kesemua konstruk memperoleh nilai pekali Alpha Cronbach yang melebihi 0.6 yang menunjukkan semua item soalan bagi konstruk kajian mempunyai ketekalan dalaman yang boleh diterima (Pallant, 2010).

Hasil Kajian dan Perbincangan

Seramai 384 (58.81%) orang responden lelaki dan 269 (41.19%) responden perempuan menjawab soal selidik (Rujuk Rajah 1). Dapatan menunjukkan bahawa majoriti ketua keluarga di Malaysia adalah lelaki. Manakala Jadual 4 memberikan perincian responden mengikut umur, 167 (25.6%) responden adalah berumur 18 tahun sehingga 29 tahun. Selanjutnya, 158 (24.2%) responden berumur 30 tahun sehingga 39 tahun, 157 (24.0%) responden adalah berumur 40 tahun sehingga 49 tahun. Seterusnya, 104 (15.9%) daripada responden berumur 50 tahun sehingga 59 tahun dan 54 (8.3%) daripada responden berumur 60 tahun sehingga 69 tahun. Baki seramai 13 (2%) responden adalah terdiri daripada golongan yang berumur 70 tahun dan ke atas. Ini menunjukkan bahawa majoriti ketua keluarga yang terlibat dalam soal selidik bagi komuniti di Malaysia adalah terdiri daripada golongan muda.



Rajah 1: Taburan Responden Soal Selidik Bagi Komuniti Mengikut Jantina

Jadual 4: Taburan Responden Soal Selidik Bagi Komuniti Mengikut Umur

Konstruk	Bilangan
18 - 29 tahun	167
30 - 39 tahun	158
40 - 49 tahun	157
50 - 59 tahun	104
60 - 69 tahun	54
70 tahun dan ke atas	13

Bangsa	Bilangan	Peratus
Melayu	436	66.8
Cina	82	12.6
India	67	10.2
Bumiputra Lain	53	8.1
Lain-Lain	15	2.3
Jumlah	653	100.0

Rajah 2: Taburan Responden Soal Selidik Bagi Komuniti Mengikut Bangsa

Rajah 2 menjelaskan pembahagian responden soal selidik komuniti mengikut bangsa. Majoriti responden soal selidik komuniti seramai 436 (66.8%) adalah berbangsa Melayu. Ini diikuti oleh 82 (12.6%) responden berbangsa Cina. Manakala 8.1% - 10.2% responden adalah

berbangsa India dan Bumiputera lain. Seterusnya, baki 15 (2.3%) daripada responden adalah daripada lain-lain bangsa.

Purata bagi keseluruhan konstruk kajian yang ditunjukkan dalam Jadual 5 mendapati bahawa di antara kelapan-lapan konstruk yang dicadangkan untuk mengukur tahap kesejahteraan masyarakat di Malaysia, hubungan kekeluargaan menunjukkan purata secara keseluruhan yang tertinggi iaitu 4.3044 (s.p 0.8045) dan hubungan ekonomi mencatatkan purata secara keseluruhan yang terendah dengan nilai purata 3.5551 (s.p 1.0672).

Jadual 5: Purata dan Sisihan Piawai Bagi Keseluruhan Konstruk

Konstruk	Min	Sisihan Piawai
Hubungan Kekeluargaan	4.3044	0.8045
Hubungan Ekonomi	3.5551	1.0672
Hubungan Kesihatan	4.0064	0.8747
Hubungan Keselamatan	4.3011	0.7901
Hubungan Komuniti	3.8484	0.9673
Hubungan Kerohanian	3.8448	1.0542
Hubungan Persekitaran	3.8241	1.0567
Hubungan Teknologi Komunikasi	3.7203	1.0384
Keseluruhan	3.9256	0.9566

Domain hubungan kekeluargaan (Jadual 6) melihat kepada sejauh mana eratnya hubungan ketua dan ahli keluarga. Terdapat empat item dalam konstruk ini. Berdasarkan Jadual 2, kesemua item menunjukkan purata secara keseluruhan yang tertinggi. Item kedua iaitu “Saya berkomunikasi dan berhubung dengan ahli keluarga melalui media sosial walaupun selepas pandemik Covid-19” memberikan purata tertinggi (4.3813, s.p 0.7493). Manakala, item keempat iaitu “Saya memperuntukkan masa yang seimbang di antara waktu bekerja dan waktu bersama ahli keluarga walaupun selepas pandemik Covid-19” memberikan purata terendah (4.1669, s.p 0.8955). Ini menunjukkan konstruk hubungan kekeluargaan adalah antara karakteristik model kehidupan pasca pandemik yang perlu diterapkan sebagai norma baharu.

Jadual 6: Purata dan Sisihan Piawai Bagi Item Dalam Konstruk Hubungan Kekeluargaan

Hubungan Kekeluargaan	Purata	Sisihan Piawai
Saya berbincang apa sahaja perkara bersama ahli keluarga secara dalam talian walaupun selepas pandemik Covid-19	4.2986	0.7860
Saya berkomunikasi dan berhubung dengan ahli keluarga melalui media sosial walaupun selepas pandemik Covid-19.	4.3813	0.7493
Saya meluangkan masa untuk melakukan aktiviti bersama ahli keluarga secara bersemuka walaupun selepas pandemik Covid-19.	4.3706	0.7875
Saya memperuntukkan masa yang seimbang di antara waktu bekerja dan waktu bersama ahli keluarga walaupun selepas pandemik Covid-19.	4.1669	0.8955

Domain hubungan ekonomi (Jadual 7) melihat kepada aspek taraf hidup, pendapatan dan simpanan. Terdapat empat item yang mengukur domain hubungan ekonomi dalam kajian ini. Item ketiga iaitu “Pekerjaan saya sekarang menjamin kehidupan saya sekeluarga walaupun selepas pandemik Covid-19” menunjukkan purata tertinggi (3.6309, s.p 1.0524). Manakala, item keempat iaitu “Saya berupaya menabung bagi keperluan masa depan keluarga walaupun

selepas pandemik Covid-19” memberikan purata terendah (3.4625, s.p 1.0982). Secara keseluruhan, kesemua item dalam konstruk hubungan ekonomi mempunyai tafsiran yang sederhana. Tafsiran sederhana bagi kesemua item hubungan ekonomi berkebarangkalian adalah disebabkan kekangan kewangan yang dialami oleh majoriti responden selepas pandemik Covid-19. Kekangan ini menyebabkan kemampuan responden terlibat bagi menampung keluarga terjejas.

Jadual 7: Purata dan Sisihan Piawai Bagi Item Dalam Konstruk Hubungan Ekonomi

Hubungan Ekonomi	Purata	Sisihan Piawai
Saya mampu menampung perbelanjaan keluarga dengan pendapatan isi rumah sekarang walaupun selepas pandemik Covid-19.	3.6080	1.0520
Keadaan ekonomi keluarga saya berada pada tahap yang baik walaupun selepas pandemik Covid-19.	3.5191	1.0661
Pekerjaan saya sekarang menjamin kehidupan saya sekeluarga walaupun selepas pandemik Covid-19.	3.6309	1.0524
Saya berupaya menabung bagi keperluan masa depan keluarga walaupun selepas pandemik Covid-19.	3.4625	1.0982

Kesimpulan

Pandemik Covid-19 telah memperkenalkan kehidupan norma baharu yang membawa perubahan yang jelas dalam pelbagai aspek kehidupan di Malaysia. Berdasarkan kajian ini, konstruk hubungan kekeluargaan mencatatkan purata tertinggi yang menunjukkan bahawa aspek kekeluargaan mendapat perhatian dan kepentingan yang tinggi dalam kalangan masyarakat semasa pandemik. Ini mungkin disebabkan oleh peningkatan masa yang dihabiskan bersama keluarga akibat Perintah Kawalan Pergerakan (PKP) dan pelaksanaan bekerja dari rumah. Keadaan ini memupuk hubungan kekeluargaan yang lebih erat dan menyokong kesejahteraan emosi dan mental individu. Kehidupan norma baharu telah menggalakkan masyarakat untuk lebih menghargai nilai kekeluargaan, dengan aktiviti keluarga menjadi pusat utama dalam kehidupan harian.

Sebaliknya, konstruk hubungan ekonomi mencatatkan purata terendah yang menunjukkan bahawa pandemik telah memberi kesan negatif yang ketara terhadap kesejahteraan ekonomi masyarakat. Penutupan perniagaan, kehilangan pekerjaan, dan ketidakpastian ekonomi adalah antara cabaran utama yang dihadapi. Kehidupan norma baharu memperlihatkan perlunya strategi dan polisi ekonomi yang lebih fleksibel dan inklusif untuk membantu masyarakat mengatasi cabaran ini. Walaupun terdapat bantuan kewangan dari kerajaan, ramai yang masih berdepan dengan kesukaran ekonomi, menunjukkan bahawa langkah-langkah yang lebih berkesan dan menyeluruh diperlukan untuk memperbaiki kesejahteraan ekonomi rakyat.

Penghargaan

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CABARAN DAN PERANCANGAN KEWANGAN BAGI MENCAPAI KESEJAHTERAAN HIDUP IBU TUNGGAL DI TERENGGGANU

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Abstract: Artikel ini bertujuan menganalisis cabaran hidup yang dialami ibu tunggal serta perancangan kewangan bagi mencapai kesejahteraan hidup ibu tunggal di Terengganu. Kajian ini menggunakan pendekatan kuantitatif. Lokasi kajian melibatkan lapar daerah di negeri Terengganu. Bilangan responden yang terlibat dalam kajian ini adalah seramai 612 orang ibu tunggal iaitu seramai 468 orang bercerai hidup dan seramai 144 orang bercerai mati. Proses pengumpulan data diperoleh melalui tiga kaedah iaitu melalui tinjauan, atas talian (google form) dan panggilan telefon. Kajian ini menggunakan analisis deskriptif korelasi yang melibatkan frekuensi, peratusan, min, sisihan piawai dan skor. Hasil kajian menunjukkan seramai 515 orang dengan nilai peratusan sebanyak 84.1% menghadapi cabaran tidak mampu memiliki kenderaan ke tempat kerja, tidak mampu mengisi petrol (bagi yang memiliki kenderaan), dan tidak mampu membayar upah pengasuh anak yang masih kecil. Punca utama terjadinya cabaran kewangan adalah tiada gaji atau sumber pendapatan dengan jumlah seramai 505 orang dengan nilai peratusan 82.5%. Hasil kajian juga mendapati seramai 469 orang ibu tunggal (76.6%) telah membuat keputusan menetapkan matlamat kewangan yang lebih spesifik untuk kesejahteraan pada masa hadapan. Kesimpulannya, kehidupan sebagai ibu tunggal didapati sangat mencabar. Oleh itu ibu tunggal harus segera bertindak untuk meningkatkan kesejahteraan hidup. Implikasi kajian ini dapat menunjukkan daripada aspek pelaksanaan program-program latihan dan bantuan daripada agensi-agensi terlibat yang menjurus kepada minat dan peluang untuk menjana pendapatan dalam kalangan ibu tunggal.

Keywords: Cabaran dan Perancangan Kewangan, Kesejahteraan Hidup, Ibu Tunggal, Terengganu.

Pengenalan

Penceraian hidup atau kematian suami telah menyebabkan perubahan hidup secara menyeluruh kepada insan bergelar isteri kerana mereka terpaksa mengambil alih sepenuhnya tugas sebagai seorang ketua keluarga. Gelaran sebagai ibu tunggal memberi tekanan besar kerana mereka berdepan dengan pelbagai cabaran iaitu pengurusan diri sendiri, anak-anak yang masih di bawah tanggungan, tanggungjawab terhadap ahli keluarga yang lain, serta penerimaan masyarakat setempat. Namun, dalam kajian ini pengkaji akan menfokuskan kepada cabaran paling utama yang dihadapi oleh ibu tunggal iaitu cabaran kewangan. Setelah menjadi ibu tunggal, masalah utama yang dihadapi adalah kehilangan pendapatan atau sebahagian daripada pendapatan yang sebelum ini diberikan oleh suami (Isahak et al. 2009; Sing & Yusof, 2024). Cabaran kewangan adalah antara faktor yang menyumbang kepada keresahan atau

keimbangan dalam kalangan ibu tunggal (Crosier et al. 2007; Zakaria et al. 2022). Sebagai pencari nafkah tunggal dalam keluarga, mereka terdedah kepada tekanan kewangan secara berterusan kerana tidak mendapat sokongan kewangan daripada pasangan (Siti Rafiah et al. 2013). Berdasarkan statistik Kementerian Pembangunan Wanita, Keluarga dan Masyarakat (KPWKM), jumlah ibu tunggal pada tahun 2014 menunjukkan peningkatan sebanyak 80.6% daripada jumlah asal ibu tunggal pada tahun 2010 (Zakaria et al. 2019). Laporan statistik Banci Penduduk dan Perumahan Malaysia 2020 menunjukkan keseimbangan apabila jumlah kumpulan sasar ini terus meningkat kepada angka satu juta di negara ini (Adnan, 2022). Berdasarkan statistik yang direkodkan kerajaan Terengganu, populasi ibu tunggal di Terengganu meningkat hampir 10,000 orang dalam tempoh tiga tahun menjadikan keseluruhan golongan itu direkodkan seramai 43,471 orang pada tahun 2020. Statistik terbaharu itu menunjukkan peningkatan ketara berbanding jumlah yang direkodkan seramai 35,000 orang pada 2018.

Ketiadaan bapa dalam sistem kekeluargaan mampu mempengaruhi peranan ketua keluarga untuk mengurus dan membimbing sistem keluarga terutamanya terhadap kesejahteraan anak (Jusoh & Latada, 2019). Isu yang sering kali dikaitkan dengan sebahagian besar ibu tunggal adalah kesempitan hidup yang dialami apabila terpaksa menjadi Ketua Isi Rumah (KIR) yang perlu memenuhi keperluan ahli keluarga lebih-lebih lagi ibu tunggal yang mempunyai anak di bawah tanggungan. Oleh sebab itu, kesan daripada penceraian atau ketiadaan suami dalam sesebuah rumah tangga secara umumnya menjadikan wanita lebih miskin berbanding dengan kelompok populasi yang lain. Hal ini disebabkan oleh ibu tunggal yang berpendapatan rendah dan menghadapi kekangan dari sudut penjagaan anak tidak berupaya memperbaiki dan mempertingkatkan pendapatan untuk menyara keluarga sehingga menyebabkan mereka tergolong dalam kemiskinan (Mohd Fazli, 2020).

Sorotan Kajian

Tidak dapat dinafikan ibu tunggal kematian suami atau diceraikan oleh suami akan menghadapi banyak cabaran. Antara cabaran yang dilalui adalah dalam bentuk kewangan, pekerjaan, pengurusan anak, tekanan emosi, stigma masyarakat, kesihatan, kesunyian, dan kes mahkamah. Antara isu yang akan dibincangkan dalam artikel ini adalah cabaran kewangan melibatkan diri sendiri, anak-anak, hutang, dan lain-lain. Selain daripada diri sendiri, ibu tunggal mengalami kerisauan apabila memikirkan sumber pendapatan untuk menyara anak-anak yang masih kecil, hutang yang ditinggal oleh bekas suami, bil utiliti, dan sebagainya. Kupasan isu ini sangat penting supaya pihak berwajib dapat mengetahui cabaran yang dilalui dan keperluan yang diperlukan oleh ibu tunggal untuk memulakan episod baharu dalam kehidupan mereka. Selain itu ia dapat memberi penyelesaian kepada isu ini agar ibu tunggal dapat menjalani hidup dengan sejahtera walaupun ketiadaan suami disisi.

Cabaran Kewangan

Setelah bergelar ibu tunggal, banyak cabaran kewangan yang terpaksa dihadapi oleh ibu tunggal. Menurut kajian yang dibuat oleh Ismail et al., (2023), kehilangan punca mata pencarian keluarga adalah faktor utama ibu tunggal terjebak dalam kemiskinan. Desakan kos sara hidup yang semakin meningkat menjadi punca kepada kesulitan yang dihadapi. Golongan ibu tunggal sebelum ini merupakan suri rumah sepenuh masa lebih terkesan kerana mereka bergantung hidup sepenuhnya kepada pasangan mereka ketika masih hidup. Yusoff (2016), kebanyakan golongan ibu tunggal mengalami kesukaran menjaga ahli lain dalam keluarga dan membesarkan anak kerana mereka sudah hilang sebahagian besar pendapatan yang sebelum ini

diberikan oleh suami. Mereka mengalami masalah kewangan yang serius kerana pendapatan yang diperolehi setiap bulan masih tidak mampu menampung keperluan hidup mereka sekeluarga. Tekanan utama yang dihadapi oleh golongan ibu tunggal adalah berkaitan dengan kewangan seperti gaji yang tidak mencukupi, hutang yang banyak serta polisi ekonomi (Hashim et al. 2015). Peranan golongan ibu tunggal sebagai pencari nafkah tunggal dalam menyediakan keperluan asas keluarga merupakan isu yang kritikal pada masa ini kerana mereka berdepan dengan kesukaran dari segi kos sara hidup yang semakin meningkat (Ibrahim & Ghani, 2018).

Seseorang ibu tunggal mengalami kesukaran untuk memperoleh kewangan yang mencukupi bagi menanggung perbelanjaan dan penjagaan anak-anak, serta diri mereka sendiri (Muhsin & Lukman, 2023). Hal ini terjadi kerana mereka menggalas bebanan besar dengan mengetahui sesebuah isi rumah, terutama golongan ibu tunggal yang secara relatifnya berpendapatan rendah dan tidak mempunyai pekerjaan tetap. Kesejahteraan dan kestabilan kewangan dipengaruhi oleh jumlah tanggungan isi rumah sehingga boleh terjadinya keluarga miskin (Rahmah, 2022). Terdapat dalam kalangan ibu tunggal yang bekerja tetapi tidak mampu menghantar anak ke pusat asuhan kanak-kanak, ada pula yang perlu menjaga ahli keluarga yang tidak sihat, malah bertambah malang sekiranya mereka sendiri yang tidak sihat. Mereka mendidik dan membesarkan anak-anak secara bersendirian. Ibu tunggal berasa terbeban kerana perlu memainkan pelbagai peranan dalam kehidupan mereka iaitu sebagai bapa dan ibu dalam satu masa terhadap anak mereka. Bebanan berat menguruskan segala perkara di rumah dan di tempat kerja terpaksa ditanggung oleh ibu tunggal seorang diri. Lebih menyedihkan lagi, ada antara ibu tunggal yang memikul tanggungjawab lebih berat apabila perlu menjaga ahli keluarga lain yang tidak sihat seperti nenek yang uzur serta anak yang mempunyai masalah kesihatan sejak dilahirkan (Irene & Masarah, 2024).

Cabaran besar yang terpaksa ditanggung oleh ibu tunggal adalah tempat tinggal. Sebelum bercerai, suami telah menyediakan tempat tinggal termasuk dengan sewa rumah. Namun, selepas bergelar ibu tunggal, mereka tidak mampu untuk membayar sewa rumah kerana selama ini, bekas suami yang membayarnya (Siti Marziah et al. 2019). Malah, setelah berlakunya penceraian, ibu tunggal mengalami masalah untuk mencari tempat tinggal baharu yang mana untuk mendapatkan rumah sewa memerlukan kos yang agak tinggi sebagai deposit untuk menyewa rumah tersebut. Ketiadaan tempat kediaman telah menyebabkan tahap tekanan yang lebih tinggi sehingga ibu tunggal mengalami kemurungan (Kim et al. 2020). Gaya hidup yang telah berubah selepas penceraian berlaku memberikan kesan kepada kesenangan hidup yang mungkin pernah dikecapi semasa bersama suami suatu ketika dahulu di mana ibu tunggal terpaksa bekerja selepas bercerai. Dalam usaha untuk mendapatkan pekerjaan, ibu tunggal mengalami masalah pengangkutan dan tempat tinggal. Kesukaran yang dialami ini telah memaksa ibu tunggal untuk tidur di tempat kerja. Ibu tunggal yang dahulunya memiliki kereta dan motorsikal atas nama suami, kini tidak memiliki apa-apa lagi. Keadaan ini sangat menguji ibu tunggal kerana perlu berulang alik ke tempat kerja dengan menumpang kenderaan rakan atau jiran (Siti Marziah et al. 2019). Mereka tidak mempunyai kenderaan untuk ulang alik ke tempat kerja. Memiliki kenderaan untuk bergerak kemana-mana merupakan suatu yang penting dan boleh dianggap sebagai keperluan pada masa ini. Namun, terdapat ibu tunggal terpaksa bergantung kepada orang lain menyebabkan pergerakannya terbatas (Azlina, 2020).

Setelah mendapat pekerjaan, mereka menghadapi cabaran baharu seperti pendapatan yang tidak mencukupi untuk menghantar anak-anak mereka ke pusat jagaan kanak-kanak kerana kos pengasuh yang mahal (Radey, Langenderfer-Magruder, & Brown Speights, 2021). Laporan Suruhanjaya Hak Asasi Manusia Malaysia (SUHAKAM, 2012) telah mengesan sebahagian ibu

tunggal menghadapi masalah kewangan dari segi pembayaran yuran. Sebagai contoh, mereka tidak mempunyai kemampuan untuk menempatkan anak mereka di pusat jagaan kanak-kanak disebabkan kos bayaran yuran yang tinggi (Idris, 2018). Terdapat ibu tunggal terpaksa membuat keputusan untuk meninggalkan anak mereka kepada ibu mereka iaitu nenek kepada anak mereka. Keadaan ini akan lebih memburukkan lagi keadaan kerana nenek tidak ikhlas untuk menjaga cucunya sehingga menyebabkan trauma kepada anak tersebut (Tumani, 2022). Selain kos pengasuh yang tinggi, ibu tunggal juga tidak berkemampuan untuk membayar kos pengangkutan ulang alik ke tempat kerja (Siti Marziah et al. 2019.) Selain itu, pendapatan rendah menyebabkan, ibu tunggal tidak dapat membuat tabungan dan seringkali kehabisan wang pendapatan (Arendell, 2023).

Ibu tunggal menunjukkan secara konsisten untuk mengalami masalah kewangan berbanding dengan populasi umum (Broussard et al. 2012). Hal ini kerana ibu tunggal mengalami masalah pengaliran tunai iaitu pengaliran wang masuk kurang berbanding dengan pengeluaran wang keluar. Ibu tunggal tidak berkemampuan untuk membeli dan menyiapkan kelengkapan keperluan asas untuk diri mereka sendiri seperti keperluan makanan, pakaian, tempat tinggal dan membayar bil utiliti. Rata-rata ibu tunggal menghadapi masalah dan kekangan wang perbelanjaan untuk membeli keperluan asas seperti makanan harian, lampin anak, susu, beras, dan sebagainya (Siti Marziah et al. 2019) kerana aliran tunai yang tidak seimbang iaitu perbelanjaan melebihi pendapatan memandangkan jumlah pendapatan yang diperoleh terlalu sedikit jika dibandingkan dengan keperluan perbelanjaan yang lebih banyak.

Dapatan kajian Azlina (2020) menunjukkan kebanyakan ibu tunggal tidak dapat memberikan sepenuh perhatian kepada anak-anak sehingga menyebabkan berlakunya masalah dalam institusi keluarga. Lebih malang lagi, akibat daripada kesempitan hidup telah menyebabkan anak-anak mereka yang masih kanak-kanak dan remaja terjebak dengan salah laku juvana (Sharifah Shahida, 2017). Selain itu, isu pengabaian dari sudut keperluan pembelajaran turut berlaku kerana ibu tunggal tidak mampu untuk membayar yuran persekolahan anak-anak sehingga menyebabkan anak-anak tertekan untuk ke sekolah kerana sering dipanggil oleh cikgu. Perbelanjaan untuk persekolahan anak-anak memerlukan kos yang sangat besar. Bermula dengan peralatan persekolahan seperti alat tulis, buku, uniform sekolah, baju sukan, sehinggalah yuran sekolah menyebabkan ibu tunggal terpaksa berhutang yuran persekolahan dengan pihak sekolah. Kebanyakan ibu tunggal tidak mampu untuk mempunyai sebarang insurans perlindungan untuk diri sendiri dan anak-anak. Kos sara hidup yang tinggi memaksa golongan ibu tunggal bekerja keras untuk menyara hidup mereka bersama dengan anak-anak (Irene & Masarah, 2024). Kesusahan dan kegelisahan yang dialami oleh ibu tunggal dikaitkan dengan tanggungjawab keibubapaan dan kesulitan kewangan (Rebecca et al. 2017) ditambah pula dengan mereka tidak mempunyai simpanan.

Punca Cabaran Kewangan Yang Dihadapi

Kajian menunjukkan punca berlakunya cabaran kewangan adalah kesukaran yang dihadapi oleh ibu tunggal yang tinggal di lokasi luar bandar lebih sukar berbanding lokasi di bandar untuk mencari peluang pekerjaan (Simmons et al. 2007) kerana peluang pekerjaan di luar bandar sangat terhad jika dibandingkan di bandar. Selain itu, ibu tunggal yang tinggal di luar bandar mempunyai masalah kurang pendapatan (Siti & Sakinah, 2013) tidak mendapat sokongan sosial yang berterusan dan bantuan kebajikan yang khusus kerana sebahagian daripada mereka tidak mendapat maklumat dan bantuan daripada pihak terbabit. Mereka seolah-olah tercicir daripada menerima bantuan yang telah disediakan oleh pihak kerajaan dan

NGO. Sedangkan golongan ini sangat memerlukan bentuk bantuan yang khusus dalam menjana pendapatan dan ekonomi mereka.

Tahap pendidikan turut menjadi punca kepada cabaran kewangan ibu Tunggal kerana tahap pendidikan tinggi membawa ibu tunggal kepada kehidupan yang lebih positif (Kim et al. 2020) sekaligus mempengaruhi pendapatan yang tinggi. Menurut Zaimah et al. (2012), tahap pendidikan mempunyai hubungan dengan perlakuan kewangan individu. Majoriti ibu tunggal sukar mendapat pekerjaan yang menawarkan gaji lebih tinggi kerana kebanyakan mereka hanya mempunyai tahap pendidikan yang rendah (Irene & Masarah, 2024). Justeru, ia menjadi kekangan untuk menyelesaikan isu kewangan yang dihadapi oleh mereka. Kebanyakan ibu tunggal mempunyai tahap pendidikan yang rendah dan berkemahiran tanpa sijil (Diyana et al. 2012) melayakkan mereka mendapat pekerjaan asas sahaja seperti di sektor am dan perkilangan. Akibatnya, pendapatan ibu tunggal yang bekerja juga adalah rendah kerana upah yang diterima adalah kecil. Kekurangan pendapatan ini memberi masalah ekonomi kepada ibu tunggal.

Pekerjaan yang lebih profesional akan membawa kewangan ibu tunggal ke arah yang lebih sejahtera (Kim et al. 2020). Namun, didapati ibu tunggal mempunyai pendapatan yang jauh lebih rendah berbanding bapa tunggal (Hakovirta, Kallio & Salin, 2021) sehingga menyebabkan ibu tunggal mengalami tekanan yang berkaitan dengan kesulitan kewangan dan keibubapaan pada tahap yang lebih besar. Perkara ini tidak dijangka kerana 90% adalah ibu dan bapa tunggal adalah wanita (Great Britain Office for National Statistics 2016). Oleh itu ibu tunggal berpendapatan rendah telah melakukan beberapa jenis pekerjaan untuk menambah pendapatan bulanan mereka (Wu et al., 2024).

Jumlah pendapatan yang rendah tidak dapat menampung kos keperluan ibu tunggal lebih-lebih lagi ibu tunggal yang mempunyai anak sedang melanjutkan pengajian ke peringkat lebih tinggi. Walaupun beberapa bantuan kewangan telah diterima, namun ia masih tidak mencukupi untuk menampung kos sara hidup yang tinggi pada masa sekarang (Irene & Masarah, 2024). Setiap hari ibu tunggal akan memikirkan sumber pendapatan yang akan mereka peroleh untuk menyara dan meneruskan kelangsungan hidup mereka sekeluarga seperti rumah sewa kerana mereka tidak mempunyai wang simpanan untuk membayar pendahuluan sewa rumah (Nor Aini & Doris 2012). Dengan ini, ibu tunggal akan mengambil alih tugas dan tanggungjawab besar ini dan secara tidak langsung telah memberikan tekanan kepada ibu tunggal tersebut (Zakaria et al. 2020) kerana ibu tunggal yang sudah sedia mempunyai pendapatan tetap setiap bulan tidak menjadi masalah. Namun, sekiranya ibu tunggal tersebut baru sahaja hendak mencari dan memulakan pekerjaan, semua itu sangat sukar dan merupakan cabaran besar buat mereka.

Antara faktor yang menjadi kesukaran kepada ibu tunggal untuk merancang kewangan mereka adalah disebabkan oleh ibu tunggal berasal dari latar belakang berpendidikan rendah, tiada pengalaman bekerja serta tidak cakna akan saluran untuk mendapatkan bantuan kewangan serta bantuan-bantuan lain (Jusoh & Latada 2020). Keadaan menjadi lebih serius apabila seseorang ibu tunggal tidak mempunyai pengetahuan dan maklumat tentang bentuk-bentuk bantuan yang disediakan oleh pelbagai pihak seperti Jabatan Kebajikan Masyarakat, Jabatan Pembangunan Wanita dan Pejabat Zakat bagi mengurangkan beban yang dihadapi (Noor Azizah & Nabisah, 2022). Selain itu, kesukaran yang dihadapi oleh ibu tunggal adalah kurang cakna terhadap bantuan yang diperuntukkan, urusan mahkamah, dan ketidakstabilan ekonomi. Hal ini telah menyebabkan ibu tunggal mengalami tekanan emosi yang teruk. Dagang et al. (2022) membuktikan kesan psikologi telah menyebabkan ibu tunggal mempunyai keyakinan diri, penghargaan sendiri, serta kesejahteraan psikologi yang rendah dan tahap keseimbangan yang

lebih tinggi. Kesulitan hidup akibat tekanan kewangan yang dihadapi oleh ibu tunggal menyebabkan mereka mengalami tekanan mental (Siti Marziah et al. 2018). Tekanan semakin bertambah apabila dipandang hina oleh masyarakat (Siti Marziah et al. 2019).

Kaedah Kajian

Dalam kajian ini, pengkaji telah menggunakan kaedah kajian kuantitatif. Strategi tinjauan telah digunakan oleh pengkaji untuk mendapatkan data daripada responden dengan meminta responden mengisikan borang soal selidik. Kaedah tinjauan telah dilakukan dengan tiga cara, iaitu dengan menghubungi responden melalui penggunaan telefon atau biasanya dikenali sebagai *Computer-Assisted Telephone Interviewing* (CATI). Kaedah ini memerlukan responden menjawab soalan yang dikemukakan melalui panggilan telefon tanpa perlu mengisi borang soal selidik. Keadaan ini tidak melibatkan sebarang interaksi antara pengkaji dengan responden kerana soalan-soalan ini telah diprogramkan dalam komputer. Kaedah ini dianggap mudah dan lebih ekonomikal berbanding kaedah lain (Mohd Awang, 2018). Selain daripada melalui panggilan telefon, pengkaji telah menyediakan borang soal selidik kepada responden melalui aplikasi google form iaitu atas talian dan pengkaji turut pergi ke lapangan untuk mengedarkan borang soal selidik kepada responden. Strategi tinjauan digunakan kerana kajian tidak terikat dengan tempoh masa yang panjang selain dapat menjimatkan kos. Pengkaji telah mengambil masa selama satu bulan untuk melengkapkan kutipan data bagi kajian ini. Selain daripada pengkaji dapat menggunakan saiz sample yang besar, hasil yang diperoleh dalam masa yang singkat dapat digeneralisasikan, dipercayai dan sah. Dalam pelaksanaan reka bentuk kajian, pengkaji telah menggunakan borang soal selidik untuk pengumpulan data. Pengkaji menggunakan strategi tinjauan yang melibatkan keratan rentas kerana tidak melibatkan tempoh masa yang lama.

Pemilihan lokasi kajian adalah negeri Terengganu melibatkan lapan daerah iaitu Besut, Setiu, Kuala Nerus, Kuala Berang, Kuala Terengganu, Marang, Dungun, dan Kemaman. Daripada setiap daerah, ibu tunggal dipilih secara rawak mengikut kriteria yang telah ditetapkan iaitu ibu tunggal tinggal di bandar dan luar bandar di negeri Terengganu sahaja, berumur 18 tahun dan ke atas, ibu tunggal yang telah kematian suami atau bercerai hidup dan telah berdaftar sama ada dengan pihak kerajaan atau bukan kerajaan. Pengkaji telah menggunakan teknik pengedaran borang soal-selidik berstruktur dalam pengumpulan data kajian. Pengumpulan data dilakukan melalui kaedah panggilan telefon, atas talian, dan di lapangan (tinjauan). Dalam proses pengumpulan data di lapangan, pengkaji telah meneliti beberapa prosedur yang perlu dilakukan terlebih dahulu. Antaranya pengkaji mendapatkan kebenaran untuk menjalankan kajian daripada badan bukan kerajaan (NGO) Muszleem Malaysia di Terengganu. Kebenaran ini perlu bagi memastikan kajian yang dijalankan mematuhi peraturan yang ditetapkan oleh pihak Muszleem Malaysia. Dengan kebenaran yang diberikan oleh Muszleem Malaysia, pengkaji telah menyertai Program Pengagihan Kotak Infak yang berbentuk keperluan makanan kepada golongan fakir dan miskin, termasuk ibu tunggal. Pengkaji meminta responden mengisi borang soal selidik dan instrumen ini secara langsung tanpa gangguan daripada mana-mana pihak. Borang soal selidik ini dibaca dan diisi sendiri (self-administered) oleh responden kajian. Dalam kes-kes khas (seperti responden tidak boleh dan tidak lancar membaca), pengkaji membantu responden berkenaan membaca soalan-soalan yang terdapat dalam borang soal-selidik tersebut. Set soal selidik ini mengambil masa 10 hingga 15 minit untuk dijawab oleh responden. Pengkaji mengutip/mengumpulkan semula borang tersebut setelah selesai dijawab oleh responden. Ada juga yang meminta pengkaji meninggalkannya selama beberapa hari sebelum pengkaji datang semula untuk mengambilnya.

Kaedah kedua adalah melalui pengisian *Google Form*. Kaedah dalam talian dapat menjimatkan masa dan kos selain dapat memberi keselesaan kepada ibu tunggal untuk menjawab borang soal selidik pada bila-bila masa dan di mana sahaja. Pengkaji mengambil masa sebulan untuk mengumpul data daripada kaedah ini. Untuk pengisian melalui *google form*, pengkaji telah membuka talian bermula jam 6 pagi, bertarikh 1 Februari 2022 sehingga jam 6 pagi, 28 Februari 2022. Sepanjang tempoh tersebut pengkaji akan membuat pemantauan setiap 3 jam sekali bermula jam 6 pagi, 9 pagi, 12 tengah hari, 3 petang, 6 petang, dan 9 malam untuk mengetahui perkembangan pertambahan responden menjawab survei melalui aplikasi tersebut. Pengkaji mendapati purata seramai 8 orang sehari responden telah menjawab survei tersebut dan berjumlah seramai 240 orang responden untuk tempoh sebulan. Kaedah ketiga adalah dengan membuat panggilan telefon disebabkan terdapat ibu tunggal tidak pandai menggunakan aplikasi atas talian selain daripada masalah rangkaian internet. Selain itu, pengkaji berkunjung ke rumah ibu tunggal untuk meminta ibu tunggal mengisi borang soal selidik. Seterusnya, pengkaji turut memberikan borang soal selidik kepada kenalan yang merupakan ibu tunggal dan mengedar borang soal selidik kepada kenalan yang mempunyai kenalan berstatus ibu tunggal untuk mengisi borang soal selidik tersebut. Dengan ketiga-tiga kaedah ini, pengkaji dapat mengumpulkan sejumlah 612 borang soal selidik yang telah lengkap diisi untuk dianalisis dengan menggunakan kaedah analisis Statistical Package for the Social Sciences (SPSS).

Hasil Kajian

Cabaran Kewangan Yang Dihadapi

Setelah bergelar ibu tunggal, banyak cabaran kewangan terpaksa dihadapi oleh mereka. Hasil kajian menunjukkan cabaran kewangan yang dihadapi oleh ibu tunggal telah menyebabkan mereka terus berada dalam kemiskinan. Dalam kajian ini menunjukkan cabaran utama dihadapi oleh ibu tunggal adalah tidak mampu untuk memiliki kenderaan ke tempat kerja, tidak mampu mengisi petrol bagi yang memiliki kenderaan dan tidak mampu membayar upah pengasuh anak yang masih kecil dengan bilangan kekerapan sebanyak 515 orang ibu tunggal (84.1%) bersetuju dengan cabaran kewangan yang dihadapi ini. Cabaran kedua tertinggi yang dihadapi oleh ibu tunggal adalah tidak mampu membayar kos pengangkutan awam dan tidak mampu membayar balik hutang yang ditinggalkan oleh bekas suami dengan pengakuan seramai 498 orang ibu tunggal (81.3%) bersetuju dengan pernyataan ini. Cabaran kewangan ketiga tertinggi yang dihadapi oleh ibu tunggal adalah tidak mampu membayar sewa rumah dengan bilangan kekerapan seramai 481 orang ibu tunggal (78.5%). Cabaran kewangan keempat tertinggi yang dihadapi oleh ibu tunggal adalah tidak mampu membeli keperluan asas seperti makan, minum, dan pakaian anak-anak dan tidak mampu membeli barang keperluan asas anak seperti lampin dan susu dengan bilangan kekerapan seramai 478 orang ibu tunggal (78.1%). Cabaran kewangan kelima tertinggi adalah tidak mampu membayar kos perubatan anak-anak dan tidak mampu membeli keperluan harian untuk anak-anak dengan bilangan kekerapan seramai 476 orang ibu tunggal (77.7%). Cabaran kewangan keenam tertinggi yang dihadapi oleh ibu tunggal adalah tidak mampu membayar yuran sekolah anak dengan bilangan kekerapan seramai 470 orang ibu tunggal (76.7%). Cabaran kewangan ketujuh tertinggi adalah tidak mampu membayar kos perubatan diri sendiri, tidak mampu membeli keperluan asas seperti makan, minum, dan pakaian untuk diri sendiri, tidak mampu membeli keperluan harian untuk diri sendiri, tidak mampu membeli keperluan awal persekolahan anak, dan tidak mampu membayar yuran pengajian anak di peringkat pengajian tinggi dengan bilangan kekerapan seramai 463 orang ibu tunggal (75.6%). Cabaran kewangan kelapan tertinggi adalah ibu tunggal tidak mampu membeli keperluan harian untuk isi rumah lain, tidak mampu membeli keperluan asas seperti makan, minum dan pakaian untuk isi rumah lain dan tidak mampu membayar bil utiliti

(elektrik dan air) dengan bilangan kekerapan seramai 452 orang ibu tunggal (73.8%). Cabaran kewangan kesembilan tertinggi adalah ibu tunggal tidak mampu membayar pinjaman bank iaitu kenderaan dan rumah dengan bilangan seramai 448 orang ibu tunggal (73.2%). Cabaran terakhir yang dihadapi oleh sebilangan kecil ibu tunggal adalah tidak mampu membayar balik hutang sendiri seperti pinjaman PTPTN, barangan elektrik, dan sebagainya dengan bilangan seramai 267 orang (43.6%). Bacaan purata 76.09% membuktikan cabaran kewangan yang dihadapi oleh ibu tunggal adalah pada tahap tinggi.

Jadual 1: Bilangan, Peratusan dan Purata Cabaran Kewangan Yang Dihadapi

Cabaran Kewangan Yang Dihadapi	f	(%)
Tidak mampu membayar kos perubatan diri saya sendiri.	463	75.6
Tidak mampu membeli keperluan asas seperti makan, minum, dan pakaian untuk diri sendiri.	463	75.6
Tidak mampu membeli keperluan harian untuk diri sendiri.	463	75.6
Tidak mampu membayar kos perubatan anak-anak.	476	77.7
Tidak mampu membeli keperluan harian untuk anak-anak.	476	77.7
Tidak mampu membeli keperluan asas seperti makan, minum, dan pakaian anak-anak.	478	78.1
Tidak mampu membeli barang keperluan asas anak seperti lampin dan susu.	478	78.1
Tidak mampu membeli keperluan awal persekolahan anak.	463	75.6
Tidak mampu membayar yuran sekolah anak.	470	76.7
Tidak mampu membayar yuran pengajian anak di peringkat pengajian tinggi.	463	75.6
Tidak mampu membeli keperluan harian untuk isi rumah lain.	452	73.8
Tidak mampu membeli keperluan asas seperti makan, minum dan pakaian untuk isi rumah lain.	452	73.8
Tidak mampu membayar sewa rumah.	481	78.5
Tidak mampu membayar bil utiliti (elektrik dan air).	452	73.8
Tidak mampu membayar pinjaman bank (kenderaan dan rumah).	448	73.2
Tidak mampu memiliki kenderaan untuk ke tempat kerja.	515	84.1
Tidak mampu mengisi petrol (bagi yang memiliki kenderaan).	515	84.1
Tidak mampu membayar kos pengangkutan awam.	498	81.3
Tidak mampu membayar upah pengasuh anak yang masih kecil.	515	84.1
Tidak mampu membayar balik hutang ditinggalkan bekas suami.	498	81.3
Tidak mampu membayar balik hutang sendiri (PTPTN, dll).	267	43.6
Purata		76.09

Punca Cabaran Kewangan Yang Dihadapi

Terdapat beberapa faktor yang menyebabkan berlakunya cabaran kewangan tersebut. Faktor utama cabaran kewangan berlaku adalah ibu tunggal tidak mempunyai gaji atau pendapatan iaitu seramai 505 orang ibu tunggal (82.5%). Faktor kedua adalah ibu tunggal tidak mempunyai peluang pekerjaan dengan kekerapan seramai 498 orang ibu tunggal (81.4%). Faktor seterusnya yang menyebabkan berlakunya cabaran kewangan adalah tiada pendidikan atau tahap pendidikan yang rendah dengan kekerapan seramai 495 orang ibu tunggal (80.9%). Faktor berikutnya adalah kerana tiada simpanan seramai 487 orang ibu tunggal (79.5%). Faktor terakhir yang menyebabkan cabaran kewangan adalah kerana tiada bantuan daripada pihak kerajaan atau bukan kerajaan dengan kekerapan seramai 449 orang ibu tunggal (73.4%) bersetuju dengan pernyataan ini. Bacaan purata 79.54% membuktikan tahap ibu tunggal menghadapi punca yang menyebabkan berlakunya cabaran kewangan adalah tinggi.

Jadual 2: Bilangan, Peratusan dan Purata Faktor Yang Menyebabkan Cabaran Kewangan

Punca Cabaran Kewangan Yang Dihadapi	<i>f</i>	(%)
Tiada gaji / pendapatan.	505	82.5
Tiada simpanan.	487	79.5
Tiada bantuan kerajaan / pihak luar.	449	73.4
Tiada peluang pekerjaan.	498	81.4
Tiada pendidikan / tahap pendidikan rendah.	495	80.9
<i>Purata</i>		79.54

Perancangan Kewangan

Berdasarkan teori perancangan tingkah laku, disebabkan cabaran kewangan yang dihadapi oleh ibu tunggal, maka mereka telah memasang niat untuk berubah dan bertindak keluar daripada kemelut kemiskinan. Mereka mempunyai perancangan kewangan untuk kesejahteraan hidup mereka kelak. Daripada data kajian yang diperolehi, jumlah kekerapan ibu tunggal telah menetapkan matlamat kewangan yang lebih spesifik untuk kesejahteraan pada masa hadapan adalah paling tinggi iaitu seramai 469 orang (76.6%). Diikuti dengan perancangan kewangan ibu tunggal bersetuju untuk bekerja keras dan membuat pelaburan untuk masa hadapan dengan kekerapan seramai 459 orang ibu tunggal (75%). Ibu tunggal juga bersetuju untuk menyimpan wang untuk masa hadapan seramai 458 orang (74.8%). Yang paling sedikit adalah ibu tunggal bersetuju untuk mengelak daripada berhutang untuk perkara yang tidak penting dengan jumlah kekerapan seramai 452 orang (73.9%). Bacaan purata 75.06% menggambarkan tahap perancangan kewangan ibu tunggal berada pada tahap tinggi dan positif.

Jadual 3: Bilangan, Peratusan dan Purata Perancangan Kewangan

Perancangan Kewangan	<i>f</i>	(%)
Saya akan terus bekerja keras untuk meneruskan kehidupan.	459	75
Saya akan menyimpan wang selepas ini untuk masa depan.	458	74.8
Saya akan membuat pelaburan untuk masa depan.	459	75
Saya akan elakkan daripada berhutang untuk perkara yang tidak penting.	452	73.9
Saya akan menetapkan matlamat kewangan yang lebih spesifik untuk kesejahteraan pada masa hadapan.	469	76.6
<i>Purata</i>		75.06

Perbincangan Dan Cadangan

Hasil kajian menunjukkan ibu tunggal positif ingin keluar dari kemiskinan dan berhasrat untuk mengubah dan meningkatkan taraf ekonomi mereka. Menurut perancangan kewangan, majoriti ibu tunggal akan menetapkan matlamat kewangan yang lebih spesifik untuk kesejahteraan pada masa hadapan. Diikuti dengan perancangan kewangan, ibu tunggal bersetuju bekerja keras dan membuat pelaburan untuk masa hadapan. Ibu tunggal juga bersetuju menyimpan wang untuk masa hadapan dan yang terakhir adalah ibu tunggal bersetuju untuk mengelak daripada berhutang perkara yang tidak penting. Dalam usaha perancangan meningkatkan kewangan, ibu tunggal terpaksa menambah masa kerja mereka untuk mengelakkan kemiskinan dan kesukaran hidup (Thielemans & Mortelmans 2019). Selain itu, ibu Tunggal terpaksa menggandakan pekerjaannya untuk tempoh masa yang singkat selepas perpisahan bagi menampung keperluan hidup mereka sekeluarga (Gert Thielemans et al. 2019). Kerja lebih masa menyebabkan ibu tunggal kurang masa untuk berehat dan bersama anak-anak (Azlina, 2020). Hasil kajian Siti Marziah (2022) mendapati majoriti responden menjalankan perniagaan kecil-kecilan untuk

menyara keluarga bagi meneruskan kehidupan. Ada juga yang bekerja sebagai operator kilang, agen jualan, kerani, guru tadika dan pembantu kedai.

Ibu tunggal bukan sahaja menyara dan menanggung anak mereka, tetapi turut menanggung ahli keluarga lain yang turut tinggal bersama dalam satu rumah iaitu mak ayah serta adik beradik yang lain. Keadaan ini secara tidak langsung telah membebankan ibu tunggal tersebut. Situasi ini menjelaskan bahawa, semakin besar bilangan tanggungan, semakin tinggi jumlah perbelanjaan yang diperlukan. Sangat sukar untuk seorang ibu tunggal yang hanya bekerja seorang dan perlu menyara seluruh ahli keluarga untuk membina kesenangan dan kekayaan. Hal ini sangat membebankan seorang ibu tunggal yang terpaksa menyara anak-anak dan ahli keluarga yang lain. Selain itu, hasil kajian ini, ibu tunggal turut mengalami cabaran perancangan kewangan ekoran daripada wujudnya faktor cabaran kewangan seperti tiada gaji atau pendapatan, tiada simpanan, tiada bantuan kerajaan atau pihak luar, tiada peluang pekerjaan, dan taraf pendidikan rendah. Cabaran paling hebat yang sering dilalui oleh kebanyakan ibu tunggal adalah berpendapatan rendah dan tidak mempunyai simpanan. Simpanan merupakan perkara penting yang harus dijadikan amalan oleh setiap orang sebagai bekalan ketika waktu kecemasan kelak kerana kita tidak boleh menjangkakan bila musibah akan terjadi. Walaupun berpendapatan rendah, ibu tunggal masih boleh menyimpan dengan berjimat cermat iaitu membeli barang keperluan sahaja bukan kehendak. Hal ini kerana sekiranya mereka tidak menyimpan, masalah kewangan bertambah kronik kerana mereka tidak mempunyai sebarang bentuk simpanan (Siti Marziah et al. 2018). Dengan adanya simpanan, sedikit sebanyak ibu tunggal boleh memulakan kehidupan baru dengan memulakan perniagaan kecil-kecilan.

Pelbagai bantuan yang diperkenalkan oleh Kerajaan seperti Bantuan Awal Persekolahan 2023, Bantuan Tunai Rakyat 2023, Bantuan Sumbangan Tunai Rahmah (STR) 2023 (yang akan dilaksanakan untuk tempoh 6 bulan), Skim Bantuan JKM dan lain-lain hanya dapat membantu memenuhi sebahagian daripada keperluan mereka. Cadangan seperti menyediakan kursus kursus kemahiran untuk 'survival', Skim Perumahan Khas B40, kemudahan asas perlindungan insurans perubatan, menyediakan projek-projek berskala kecil yang sesuai dilakukan oleh golongan ibu tunggal ini atau memberikan modal perniagaan seperti yang dilakukan oleh Pusat Zakat (Pusat Zakat Pulau Pinang). Tidak disangkal, kemiskinan dan cabaran ekonomi sangat memberi kesan kepada emosi ibu tunggal dan dikhuatiri akan semakin serius sehingga menghadapi masalah 'anxiety' dan kemurungan yang tidak terkawal.

Kesimpulan

Tanggungjawab yang digalas oleh seorang ibu tunggal bukan mudah. Mereka memainkan pelbagai watak dalam satu masa. Mereka menguruskan diri mereka sendiri, anak-anak, ahli keluarga yang lain secara sendirian. Tidak cukup dengan itu, mereka juga yang mengambil alih tugas keluar rumah untuk mencari rezeki bagi meneruskan keperluan hidup mereka dan keluarga. Tugas ibu tunggal sangat mencabar apabila melibatkan cabaran kewangan diluar kemampuan mereka. Oleh itu, diharapkan kepada pihak yang terlibat tidak kira sama pihak kerajaan, NGO, badan persendirian, masyarakat kejiranan, dan ahli keluarga sama-sama memberi sokongan moral dalam konteks intervensi kerja sosia kepada ibu tunggal supaya mereka dapat meneruskan kehidupan mereka sekeluarga dengan lebih sejahtera, bersemangat, dan berdaya saing.

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TINJAUAN PERSEPSI KESEDIAAN PENGGUNAAN INTERNET OF THINGS (IOT) DALAM PENGURUSAN PHANTOM LOAD DI POLITEKNIK SEBERANG PERAI

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Abstract: *Pengurusan tenaga yang cekap adalah isu kritikal dalam institusi pendidikan, termasuklah Politeknik Seberang Perai. Phantom load merujuk kepada penggunaan tenaga elektrik oleh peranti elektronik yang tidak menjalankan fungsi utamanya atau tidak dimatikan sepenuhnya, yang menyumbang kepada pembaziran tenaga yang signifikan. Kajian ini bertujuan untuk menilai kesediaan pelajar, kakitangan dan institusi Politeknik Seberang Perai dalam mengadaptasi teknologi Internet of Things (IoT) untuk menguruskan fenomena ini. IoT, sebagai teknologi yang dapat memantau dan mengawal peranti secara masa nyata, menawarkan potensi besar dalam meningkatkan kecekapan pengurusan tenaga dengan mengurangkan phantom load. Kajian ini menggunakan pendekatan kuantitatif dengan kaedah soal selidik yang melibatkan 138 responden dari kalangan pelajar dan kakitangan. Dapatan kajian menunjukkan tahap kesediaan yang sederhana tinggi dalam mengadaptasi teknologi IoT, dengan persepsi positif terhadap keberkesannya dalam mengurangkan pembaziran tenaga. Walau bagaimanapun, cabaran utama yang dikenal pasti termasuk kekangan kos pelaksanaan, kekurangan pengetahuan teknikal, dan isu keselamatan data. Kajian ini mencadangkan keperluan untuk latihan tambahan serta peningkatan infrastruktur teknologi di institusi bagi memastikan pelaksanaan IoT dapat dilakukan dengan berkesan. Dengan penyelesaian yang tepat, penggunaan IoT dalam pengurusan phantom load dapat membantu mengurangkan kos tenaga dan meningkatkan keberkesanan operasi di institusi pendidikan.*

Keywords: *Pengurusan Tenaga, Phantom Load, Internet of Things (IoT), Kesediaan Teknologi, Politeknik Seberang Perai*

Pendahuluan

Pengurusan tenaga yang cekap semakin menjadi keutamaan di pelbagai institusi di Malaysia, termasuk institusi pendidikan seperti Politeknik Seberang Perai. Pengurusan tenaga merujuk kepada aktiviti dalam memastikan penggunaan tenaga yang cekap dalam organisasi (SEDA Malaysia). Pengurusan tenaga yang cekap selain dari pengurangan jejak karbon merupakan bidang yang penting dalam usaha memerangi perubahan iklim di Malaysia. Data dari Suruhanjaya Tenaga menunjukkan bahawa 76% sumber berasaskan gas asli dan petroleum digunakan dalam penjanaan tenaga elektrik di Malaysia (Suruhanjaya Tenaga, 2022). Justeru, dalam usaha mengurangkan penghasilan jejak karbon akibat perlepasan gas rumah hijau, pengurusan tenaga yang cekap dalam organisasi perlu dititikberatkan.

Salah satu fenomena yang sering memberi kesan besar terhadap penggunaan tenaga tanpa disedari ialah *phantom load*. *Phantom load* dikenali sebagai kuasa siap sedia atau *vampire load* ditakrifkan sebagai tenaga elektrik yang digunakan oleh peranti elektronik yang tidak menjalankan fungsi utamanya atau tidak dimatikan (Mohanty, 2001). Peranti elektronik yang sudah dimatikan dan palam soket tidak dicabut dengan sempurna mampu menyumbang kepada kebocoran arus sekali gus mewujudkan fenomena *phantom load* (Clement et al., 2007). Di

institusi pendidikan seperti Politeknik Seberang Perai, yang menggunakan pelbagai jenis peranti elektronik dan perkakasan elektrik, fenomena ini berpotensi untuk meningkatkan kos operasi dan menyumbang kepada pembaziran tenaga yang signifikan.

Internet of Things (IoT) telah muncul sebagai inovasi yang mampu memberi impak yang besar dalam pelbagai bidang dan sektor termasuk bidang pengurusan tenaga. IoT merupakan sebuah rangkaian bagi sesuatu benda atau “*things*” yang melibatkan penggunaan elektronik, perisian, sensor dan sambungan untuk membolehkannya mengumpul dan menukar data melalui internet (Sabri & Yahya, 2020). Melalui pengintegrasian teknologi IoT, institusi pendidikan boleh memantau dan mengurus penggunaan tenaga secara lebih efektif sekali gus menjadikan pengurusan tenaga menjadi lebih cekap. Peranti yang tersambung melalui IoT dapat memberikan data masa nyata mengenai penggunaan tenaga setiap peranti elektronik dan perkakasan elektrik, dan mengesan *phantom load* dengan tepat. Sistem IoT juga mampu untuk mematikan peranti dan perkakasan yang tidak digunakan secara automatik, seterusnya mengurangkan pembaziran tenaga dan kos.

Namun, kejayaan pelaksanaan penggunaan teknologi IoT di sesebuah institusi bergantung kepada beberapa faktor, termasuk tahap kesediaan pelajar dan kakitangan untuk menerima dan mengadaptasi teknologi tersebut, pengetahuan tentang fungsi dan kelebihan IoT, kesediaan teknologi, sokongan institusi (Karadal & Abubakar, 2021) serta cabaran yang mungkin dihadapi dalam proses pelaksanaan. Kajian ini bertujuan untuk menilai tahap kesediaan dan pengetahuan pelajar serta kakitangan Politeknik Seberang Perai dalam menggunakan IoT bagi menguruskan *phantom load*, dan mengenal pasti cabaran yang mungkin timbul dalam usaha untuk melaksanakan teknologi ini. Melalui kajian ini, diharapkan institusi dapat memperoleh gambaran yang lebih jelas mengenai potensi IoT dalam pengurusan tenaga serta langkah-langkah yang perlu diambil untuk merealisasikan penggunaan teknologi ini secara berkesan.

Pernyataan Masalah

Pengurusan tenaga yang cekap dan efisien merupakan isu utama di institusi pendidikan, terutama dengan peningkatan penggunaan peranti elektronik dan perkakasan elektrik. *Phantom load* berlaku apabila peranti atau perkakasan menggunakan tenaga walaupun tidak aktif, sering menjadi punca pembaziran tenaga yang besar. Walaupun masalah ini mungkin tidak signifikan, ianya mampu memberi impak besar dalam jangka panjang, terutamanya dari segi kos operasi dan kesan terhadap alam sekitar. Di Politeknik Seberang Perai, dengan pelbagai peranti elektronik dan perkakasan elektrik yang digunakan setiap hari, *phantom load* berpotensi menyumbang kepada peningkatan kos elektrik yang tidak diperlukan. Secara amnya, pertambahan perkakasan elektrik di setiap ruang kerja di makmal dan bengkel akan meningkatkan kos utiliti elektrik dan secara tidak langsung juga meningkatkan penggunaan *phantom load*. Sebanyak 48% dari keseluruhan tenaga elektrik yang dijana digunakan untuk sektor bangunan dan menjadikan sektor bangunan pengguna tenaga yang tertinggi (Zamri & Mohamad, 2012).

Seiring dengan meningkatnya kesedaran mengenai pemuliharaan tenaga, teknologi IoT memberikan penyelesaian yang inovatif. Selain dari mampu mengesan *phantom load* secara automatik, IoT mampu mengawal peranti melalui kawalan jarak jauh, sekaligus menjadikannya lebih mudah untuk mengurangkan pembaziran tenaga. Namun begitu, persoalan yang timbul ialah sejauh mana pelajar dan kakitangan politeknik bersedia untuk menggunakan teknologi ini dalam pengurusan tenaga. Selain itu, pelaksanaan teknologi IoT mungkin menghadapi pelbagai cabaran dan halangan. Antaranya ialah kos permulaan yang tinggi untuk membeli dan

memasang peralatan IoT, serta keperluan untuk latihan teknikal bagi memastikan semua pengguna dapat memahami dan menggunakan teknologi ini dengan baik. Tambahan pula, infrastruktur sedia ada di institusi mungkin memerlukan penambahbaikan bagi menyokong penggunaan IoT secara meluas. Di samping itu, terdapat juga kebimbangan mengenai keselamatan data dan privasi apabila peralatan disambungkan secara terus ke internet. Apabila organisasi atau institusi semakin bergantung kepada peranti yang saling berhubung di antara satu sama lain, risiko yang berkaitan dengan pencerobohan data dan akses tanpa kebenaran menjadi lebih ketara (Maamar et al., 2019).

Objektif Kajian

Objektif kajian ini adalah:

1. Menilai tahap kesediaan pelajar, kakitangan dan institusi Politeknik Seberang Perai dalam mengadaptasi teknologi IoT untuk menguruskan *phantom load*;
2. Menilai cabaran dan halangan yang dihadapi dalam melaksanakan IoT di Politeknik Seberang Perai.

Persoalan Kajian

Melalui kajian ini, pengkaji berusaha dalam mencari jawapan bagi persoalan-persoalan berikut:

1. Apakah tahap kesediaan pelajar, kakitangan, dan institusi Politeknik Seberang Perai dalam mengadaptasi teknologi IoT untuk menguruskan *phantom load*?
2. Apakah cabaran dan halangan yang dihadapi dalam pelaksanaan teknologi IoT di Politeknik Seberang Perai?

Skop Kajian

Kajian ini memfokuskan kepada penilaian tahap kesediaan pelajar dan kakitangan serta cabaran institusi Politeknik Seberang Perai terhadap penggunaan teknologi IoT dalam pengurusan *phantom load*. Ia dijalankan di kampus Politeknik Seberang Perai, yang merangkumi pelbagai jabatan dan kemudahan yang terlibat dalam penggunaan tenaga elektrik dan pengurusan *phantom load*.

Namun begitu, kajian ini tidak memfokuskan kepada kadar penggunaan setiap perkakasan elektrik di Politeknik Seberang Perai, jadual kerja, jadual kelas, aktiviti penyelidikan serta reka bentuk bangunan disebabkan kekangan masa dan kos untuk melaksanakan kajian lanjutan. Kajian ini hanya tertumpu kepada satu institusi pendidikan, iaitu Politeknik Seberang Perai. Hasil kajian ini mungkin tidak dapat disandarkan kepada semua politeknik atau institusi pendidikan yang lain.

Sorotan Kajian

Internet of Things (IoT) Dan Phantom Load

Pengintegrasian teknologi *Internet of Things* (IoT) dalam pengurusan tenaga, khususnya dalam menangani *phantom load*, telah muncul antara bidang yang penting dalam penyelidikan. *Phantom load* ditakrifkan sebagai kuasa siap sedia yang wujud apabila peranti elektronik tidak menjalankan fungsi utamanya atau tidak dimatikan dengan sempurna. Fenomena ini memberi

kesan yang signifikan kepada penggunaan tenaga elektrik dalam pelbagai sektor terutamanya sektor industri dan pelanggan domestik.

Penggunaan IoT boleh dijadikan sebagai penyelesaian di mana IoT boleh digunakan dalam pemantauan dan pengurusan tenaga elektrik secara masa nyata. *Internet of Things* ialah rangkaian yang mencipta kecerdasan rangkaian dan mempunyai fungsi kawalan automatik, pengaturcaraan dan pengesanan. Data yang dikumpul membolehkan peranti berkomunikasi secara automatik tanpa bantuan manusia. Secara umumnya, terdapat tiga komponen utama yang menjadi asas penggerak kepada IoT (Sabbagh, 2009). Peranti sensor merupakan penggerak utama dan dibantu oleh rangkaian jaringan dan pengguna dalam pengaplikasian IoT.

Kajian yang dijalankan oleh Soe dan Belleudy (2019) menyatakan bahawa, penggunaan palam sensor pintar dilihat sebagai berkesan dalam pengurusan pelbagai jenis beban, termasuk *phantom load*. Dengan menggunakan algoritma pembelajaran mesin (*machine learning algorithm*) untuk menganalisis corak penggunaan tenaga, sensor ini membantu mengurangkan penggunaan yang tidak perlu dan mengoptimumkan kecekapan tenaga. Manakala, dapatan dalam kajian penggunaan IoT dalam industri akuakultur menunjukkan pengurangan ketara dalam penggunaan tenaga melalui data sensor masa nyata (Falcão Fonseca et al., 2023). Keupayaan IoT untuk memberikan maklumat berdasarkan data dan mengawal penggunaan tenaga dari jarak jauh menjadikannya alat yang sangat berharga dalam meminimumkan pembaziran tenaga.

Kesediaan IoT di Institusi Pendidikan

Pelaksanaan IoT di institusi pendidikan seperti Politeknik Seberang Perai sangat bergantung pada infrastruktur teknologi dan kesediaan pengguna untuk menerima teknologi baharu. Penyelidikan mengenai kesediaan IoT dalam sektor perusahaan kecil dan sederhana (PKS) di Malaysia menunjukkan tahap penerimaan yang berbeza, dengan perkhidmatan bukan ICT menunjukkan jurang penerimaan paling. Penerimaan yang berbeza ini disebabkan oleh pelbagai halangan, antaranya kekangan kewangan, kekurangan kepakaran teknikal dan sokongan organisasi yang tidak mencukupi (Zaidi & Faizal, 2017). Faktor-faktor ini sering menghalang pelaksanaan IoT, terutamanya dalam persekitaran yang mempunyai sumber yang terhad seperti institusi pendidikan.

Kajian kes berkenaan pengintegrasian sistem pemantauan berasaskan IoT di Politeknik Industri Logam Morowali, Indonesia menunjukkan bahawa dengan infrastruktur yang mencukupi dan latihan yang betul, institusi pendidikan boleh meningkatkan keupayaan pengurusan tenaga dengan ketara melalui pemantauan dan kawalan data masa nyata (Rahman et al., 2021). Dapatan dari kajian kes ini mencadangkan bagi mencapai hasil yang optimum dari pelaksanaan IoT dalam pengurusan tenaga, jurang teknologi di antara pengguna perlu dirapatkan dan kesedaran pengguna juga perlu ditingkatkan. Sokongan institusi memainkan peranan penting dalam kejayaan pelaksanaan teknologi IoT. Kajian oleh El-Hamed et al. (2021) membincangkan kepentingan penglibatan pengurusan atasan, sumber kewangan, dan infrastruktur IT yang kukuh dalam memudahkan pelaksanaan sistem IoT. Kajian itu menekankan kepentingan sokongan daripada pihak pengurusan atasan dan penyediaan dana yang mencukupi untuk memastikan kejayaan integrasi teknologi IoT dalam pengurusan tenaga. Tanpa penglibatan aktif daripada pihak pengurusan dan pembiayaan yang mencukupi, pelaksanaan teknologi IoT dalam pengurusan tenaga mungkin akan menghadapi cabaran dan halangan.

Pengurusan Tenaga Pintar Melalui IoT

Integrasi IoT dengan sistem pengurusan tenaga pintar telah membawa kemajuan yang signifikan dan memberi kesan kepada strategi pengoptimuman tenaga merentas pelbagai sektor, termasuk sektor kediaman, komersial, industri dan pengurusan bangunan. Kajian terkini menunjukkan bahawa gabungan teknologi IoT dengan teknik pembelajaran mesin melalui penggunaan kecerdasan buatan (AI) boleh membawa kepada amalan pengurusan tenaga yang lebih cekap. Dalam kajian ini, penerokaan berkenaan penggunaan *deep neural network* (DNN) dalam sistem tenaga rumah pintar mampu meramalkan corak penggunaan tenaga pada masa nyata, sekali gus mengoptimumkan penggunaan tenaga dan mampu memberikan penjimatan tenaga yang signifikan (Devi et al., 2023). Begitu juga, kajian oleh Embergenov (2023) menekankan peranan IoT dalam pengurusan tenaga bagi perusahaan berskala besar. Kajian ini melihat bagaimana sensor berasaskan IoT dan analisis data masa nyata dapat mempertingkatkan strategi pemuliharaan tenaga, mengurangkan kos operasi, dan mengurangkan jejak karbon secara keseluruhan. Dapatan ini menunjukkan potensi transformasi IoT dalam mencapai kecekapan tenaga dan matlamat kelestarian dalam pelbagai sektor.

Perbincangan berkenaan pengoptimuman tenaga dalam rangkaian IoT yang kompleks menggunakan pengkelompokan kabur (*fuzzy clustering*) telah dilakukan dalam penyelidikan oleh Essalhi et al. (2023). Kajian tersebut memperkenalkan kaedah baharu yang melibatkan seni bina *Fog-Mist-IoT*, yang mengoptimumkan komunikasi dan pengurusan sumber, membawa kepada penggunaan tenaga yang lebih cekap, di samping dapat memanjangkan jangka hayat operasi rangkaian di mana ianya penting untuk kegunaan industri dan komersial berskala besar yang memerlukan penghantaran data yang banyak dan penggunaan tenaga yang lebih tinggi. Dalam pengurusan bangunan, Ahmed et al. (2022) mencadangkan satu kerangka IoT yang menyeluruh dengan memfokuskan kepada penjimatan tenaga dalam bangunan pintar. Kajian ini melihat bagaimana sensor yang disokong oleh IoT dapat mengurus tenaga secara masa nyata dan menyumbang kepada pengawalan tenaga yang lebih pintar di kawasan bandar. Fleksibiliti sistem untuk mengintegrasikan pelbagai peranti melalui internet membolehkan pengurusan tenaga yang komprehensif dalam bangunan.

Metodologi Kajian

Dapatan sesuatu kajian bergantung kepada kaedah dan reka bentuk kajian. Reka bentuk penyelidikan adalah panduan kepada pendekatan kaedah yang sesuai digunakan untuk penyelidikan (Othman, 2001). Kajian ini menggunakan reka bentuk tinjauan deskriptif kuantitatif untuk mengumpul data mengenai kesediaan dan persepsi pelajar serta kakitangan serta cabaran Politeknik Seberang Perai dalam menggunakan teknologi *Internet of Things* (IoT) bagi menguruskan *phantom load*. Kaedah tinjauan merupakan kajian terhadap perkara atau senario yang sedang berlaku dan proses mendapatkan data dilaksanakan dalam tempoh tertentu sahaja.

Data dikumpulkan melalui instrument borang soal selidik berstruktur yang diedarkan kepada sampel kajian. Instrumen jenis ini adalah lebih sesuai digunakan kerana saiz populasi adalah besar. Soalan soal selidik dibahagikan mengikut persoalan kajian. Bagi persoalan kajian pertama iaitu berkenaan tahap kesediaan, soalan dibahagikan kepada tiga bahagian iaitu kesediaan pelajar dan kakitangan mengadaptasi teknologi IoT, pengetahuan mengenai IoT dan *phantom load* dalam pengurusan tenaga dan persepsi terhadap keberkesanan IoT dalam pengurusan tenaga dan *phantom load*. Manakala bagi persoalan kedua, soalan dibahagikan

kepada dua bahagian merangkumi kesediaan sumber dan sokongan untuk pelaksanaan IoT dan cabaran dan halangan dalam pelaksanaan IoT. Setiap bahagian merangkumi lima soalan berkaitan aspek kajian di mana Skala Likert seperti dalam Jadual 1 digunakan untuk responden menilai tahap persetujuan terhadap setiap pernyataan.

Jadual 1 : Skala Likert	
Skor	Skala
1	Sangat Tidak Setuju
2	Tidak Setuju
3	Kurang Setuju
4	Setuju
5	Sangat Setuju

Populasi kajian ini terdiri daripada pelajar dan kakitangan di Politeknik Seberang Perai. Sampel kajian dipilih secara rawak daripada populasi tersebut. Sebanyak 150 responden terdiri daripada 100 orang pelajar dan 50 orang kakitangan politeknik dipilih sebagai sampel kajian. Pemilihan rawak ini bertujuan memastikan bahawa setiap individu dalam populasi mempunyai peluang yang sama untuk dipilih. Pengumpulan data responden adalah melalui pengedaran soal selidik secara digital menggunakan platform *Jotform*.

Data yang dikumpulkan daripada soal selidik dianalisis menggunakan *Statistical Package for the Social Sciences* (SPSS) versi 26. Analisis statistik deskriptif seperti skor min dan sisihan piawai digunakan untuk menilai persepsi, kesediaan serta cabaran yang terhadap penggunaan IoT bagi pengurusan *phantom load*. Untuk mendapatkan maklumat yang lebih tepat dan bermakna, analisa kajian hendaklah menggunakan kaedah yang bersesuaian. Jadual 2 digunakan untuk interpretasi tahap skor min bagi dapatan ini berdasarkan dapatan responden yang dibahagi kepada empat tahap menurut *Nunally* dan *Bernstein* (1994).

Jadual 2: Interpretasi Skor Min	
Nilai Min	Tahap Penilaian
1.00 - 2.00	Rendah
2.01 - 3.00	Sederhana Rendah
3.01 - 4.00	Sederhana Tinggi
4.01 -5.00	Tinggi

Dapatan Kajian

Dapatan dan perbincangan berkenaan kajian dibahagikan kepada tiga bahagian. Bahagian pertama melibatkan profil demografi responden Politeknik Seberang Perai. Manakala bahagian kedua dan ketiga masing-masing melibatkan perbincangan tahap kesediaan dan cabaran terhadap penggunaan IoT bagi pengurusan *phantom load* di Politeknik Seberang Perai.

Demografi Responden

Sebanyak 138 responden memberi maklum balas melalui borang soal selidik yang diedarkan secara atas talian melaui *Jotform*. Sebagaimana yang ditunjukkan dalam Jadual 3, didapati bahawa seramai 89 orang dengan 64.5% responden adalah lelaki, manakala 49 orang (35.5%) responden terdiri dari perempuan.

Jadual 3: Taburan Responden Mengikut Jantina

Jantina	Kekerapan	Peratus (%)
Lelaki	89	64.5
Perempuan	49	35.5
Jumlah	138	100

Taburan responden mengikut jabatan ditunjukkan dalam Jadual 4. Didapati bahawa seramai 67 orang (48.6%) responden dari jabatan kejuruteraan elektrik dan 11 orang (8.0%) responden dari jabatan kejuruteraan mekanikal. Manakala responden dari jabatan matematik, sains & komputer, jabatan pengajian am dan jabatan pengajian perdagangan masing-masing terdiri dari 5 orang (3.6%), 3 orang (2.2%) dan 36 orang (26.1%). Bagi jabatan teknologi maklumat & komunikasi, responden terdiri dari 8 orang (5.8%) dan 8 orang (5.8%) dari unit sokongan.

Jadual 4: Taburan Mengikut Jabatan

Jabatan	Kekerapan	Peratus (%)
Jabatan Kejuruteraan Elektrik	67	48.6
Jabatan Kejuruteraan Mekanikal	11	8.0
Jabatan Matematik, Sains & Komputer	5	3.6
Jabatan Pengajian Am	3	2.2
Jabatan Perdagangan	36	26.1
Jabatan Teknologi Maklumat & Komunikasi	8	5.8
Unit Sokongan	8	5.8
Jumlah	138	100

Jadual 5 menunjukkan taburan responden mengikut jawatan dengan 8 orang (5.8%) terdiri dari kakitangan bukan akademik, 92 orang (66.7%) terdiri dari pelajar dan 38 orang (27.5%) terdiri dari pensyarah.

Jadual 5: Taburan Mengikut Jawatan

Jawatan	Kekerapan	Peratus (%)
Kakitangan Bukan Akademik	8	5.8
Pelajar	92	66.7
Pensyarah	38	27.5
Jumlah	138	100

Sebagaimana yang ditunjukkan dalam Jadual 6, skor min bagi tahap pengetahuan responden tentang *phantom load* ialah 3.13 dengan sisihan piawai ialah 0.85. Manakala skor min dan sisihan piawai bagi tahap pengetahuan responden berkenaan *internet of things* (IoT) ialah 3.13 dan 0.85.

Jadual 6: Skor Min Dan Sisihan Piawai Bagi Tahap Pengetahuan *Phantom Load* Dan *Internet Of Things* (IoT)

Perkara	Bilangan	Skor Min	Sisihan Piawai
Tahap Pengetahuan Tentang <i>Phantom Load</i>	138	3.13	0.85
Tahap Pengetahuan Tentang <i>Internet of Things</i> (IoT)	138	3.50	1.00

Terdapat perbezaan kecil untuk skor min antara kumpulan jawatan seperti yang ditunjukkan dalam Jadual 7, dengan kakitangan bukan akademik ($M = 3.38$) dan pensyarah ($M = 3.34$) menunjukkan pengetahuan yang hampir sama, sementara pelajar ($M = 3.02$) mempunyai tahap pengetahuan yang lebih rendah. Dapatan menunjukkan terdapat peluang untuk meningkatkan pengetahuan dalam kalangan pelajar melalui latihan atau program kesedaran yang lebih khusus mengenai pengurusan tenaga dan *phantom load*.

Jadual 7: Skor Min Responden Berdasarkan Jawatan Terhadap Tahap Pengetahuan Tentang *Phantom Load*

Jawatan	Min
Kakitangan Bukan Akademik	3.38
Pelajar	3.02
Pensyarah	3.34

Pensyarah ($M = 4.26$) menunjukkan tahap pengetahuan tertinggi mengenai IoT, diikuti oleh kakitangan bukan akademik ($M = 3.63$), manakala pelajar ($M = 3.17$) menunjukkan tahap pengetahuan yang paling rendah. Ini menunjukkan perlunya lebih banyak usaha dalam memperluaskan pendidikan dan pendedahan tentang IoT, terutamanya dalam kalangan pelajar, agar mereka lebih bersedia mengadaptasi teknologi ini dalam pengurusan tenaga, khususnya berkaitan pengurusan *phantom load*.

Jadual 8: Skor Min Responden Berdasarkan Jawatan Terhadap Tahap Pengetahuan Tentang *Internet of Things (IoT)*

Jawatan	Min
Kakitangan Bukan Akademik	3.63
Pelajar	3.17
Pensyarah	4.26

Kesediaan Mengadaptasi Teknologi IoT Untuk Menguruskan Phantom Load Kesediaan Pelajar Dan Kakitangan Mengadaptasi Teknologi IoT

Jadual 9 menunjukkan dapatan berkenaan kesediaan pelajar dan kakitangan Kesediaan Pelajar Dan Kakitangan Mengadaptasi Teknologi IoT. Skor min pada tahap tinggi diperoleh bagi item S1, S2 dan S4 dengan masing-masing memperoleh 4.09, 4.14 dan 4.01. Manakala, skor min pada tahap sederhana tinggi bagi item S3 (3.80) dan S5 (3.92). Secara keseluruhannya, tahap kesediaan responden terhadap pengadaptasian teknologi IoT dalam pengurusan *phantom* adalah sederhana tinggi. Ini kerana skor min keseluruhan yang diperolehi daripada item-item soalan yang berkaitan adalah 3.99. Manakala bagi dapatan keseluruhan sisihan piawai ialah 0.83. Ini menunjukkan terdapat perbezaan yang ketara bagi tahap kesediaan mengadaptasi teknologi IoT di kalangan responden dengan sebahagian responden mungkin sangat bersedia, sementara yang lain kurang bersedia.

Jadual 9: Dapatan Kesediaan Mengadaptasi Teknologi IoT

Soalan	Item	M	SP	Tahap
S1	Saya bersedia untuk menggunakan teknologi IoT dalam pengurusan phantom load.	4.09	0.76	Tinggi
S2	Saya percaya penggunaan IoT akan membantu mengurangkan pembaziran tenaga di politeknik.	4.14	0.74	Tinggi

S3	Saya yakin saya mempunyai kemahiran yang mencukupi untuk mengaplikasikan IoT dalam pengurusan tenaga.	3.80	0.89	Sederhana Tinggi
S4	Saya berminat untuk mempelajari lebih lanjut tentang penggunaan IoT dalam pengurusan tenaga.	4.01	0.90	Tinggi
S5	Politeknik bersedia memberikan latihan yang diperlukan untuk menggunakan teknologi IoT.	3.92	0.83	Sederhana Tinggi
Min Keseluruhan		3.99	0.83	

Pengetahuan Mengenai IoT Dan Phantom Load Dalam Pengurusan Tenaga

Secara keseluruhannya, dapatan responden bagi setiap item berada tahap sederhana tinggi seperti yang terdapat pada Jadual 10. Ini ditunjukkan pada dapatan pada item S6 (3.59), S7 (3.82), S8 (3.62), S9 (3.79) dan S10 (3.62). Secara amnya, tahap pemahaman dan pengetahuan responden terhadap konsep *phantom load* dan penggunaan teknologi IoT dalam pengurusan tenaga berada pada tahap sederhana tinggi dengan skor min keseluruhan adalah 3.69. Ini menandakan bahawa kebanyakan responden mempunyai pengetahuan yang baik, tetapi masih terdapat ruang untuk peningkatan atau pengukuhan. Sisihan piawai sebanyak 0.95 menggambarkan terdapat ketidakseragaman dalam jawapan responden. Ini menunjukkan bahawa terdapat perbezaan antara tahap pengetahuan dan pemahaman responden dengan terdapat beberapa responden yang mungkin lebih arif, sementara yang lain kurang memahami konsep-konsep ini dengan mendalam.

Jadual 10: Dapatan Pengetahuan Mengenai IoT Dan Phantom Load Dalam Pengurusan Tenaga

Soalan	Item	M	SP	Tahap
S6	Saya memahami konsep phantom load dan bagaimana ia mempengaruhi penggunaan tenaga.	3.59	0.90	Sederhana Tinggi
S7	Saya tahu bagaimana teknologi IoT berfungsi dalam pengurusan tenaga.	3.82	0.98	Sederhana Tinggi
S8	Saya telah didedahkan kepada penggunaan IoT di politeknik.	3.62	0.97	Sederhana Tinggi
S9	Saya tahu tentang peralatan dan peranti yang boleh dikawal menggunakan teknologi IoT.	3.79	0.96	Sederhana Tinggi
S10	Saya mempunyai pengetahuan yang mencukupi untuk mengenal pasti phantom load dalam penggunaan peralatan elektronik.	3.62	0.95	Sederhana Tinggi
Min Keseluruhan		3.69	0.95	

Persepsi Terhadap Keberkesanan IoT Dalam Pengurusan Tenaga Dan Phantom Load

Dapatan skor min bagi item S11 (4.15), S12 (4.16), S13 (4.18), S14 (4.07) dan S15 (4.15) menunjukkan tahap yang tinggi seperti dalam Jadual 11. Skor min keseluruhan bagi dapatan ini berada pada tahap dengan nilai 4.14 dan ini menunjukkan responden sangat setuju bahawa penggunaan teknologi IoT dapat meningkatkan pengurusan tenaga di politeknik. Ini menunjukkan persepsi positif yang tinggi terhadap manfaat IoT dalam konteks pengurusan tenaga terutamanya berkenaan pengurusan *phantom load* di politeknik. Sisihan piawai keseluruhan adalah 0.72, menunjukkan bahawa majoriti responden mempunyai pandangan yang serupa, dengan perbezaan yang tidak terlalu besar di antara mereka.

Jadual 11: Dapatan Persepsi Terhadap Keberkesanan IoT Dalam Pengurusan Tenaga Dan Phantom Load

Soalan	Item	M	SP	Tahap
S11	Saya percaya penggunaan IoT akan meningkatkan keberkesanan pengurusan tenaga di politeknik.	4.15	0.71	Tinggi
S12	IoT akan membantu politeknik menjimatkan kos penggunaan tenaga.	4.16	0.70	Tinggi
S13	IoT mampu memberikan maklumat tepat mengenai penggunaan tenaga setiap peralatan.	4.18	0.71	Tinggi
S14	IoT boleh mengurangkan phantom load melalui pemantauan dan kawalan automatik.	4.07	0.77	Tinggi
S15	Penggunaan IoT adalah penyelesaian terbaik untuk menangani masalah pembaziran tenaga di politeknik.	4.15	0.72	Tinggi
Min Keseluruhan		4.14	0.72	

Cabaran Dan Halangan Yang Dihadapi Untuk Pelaksanaan IoT Dalam Pengurusan Tenaga

Kesediaan Sumber dan Sokongan Untuk Pelaksanaan IoT

Pada asasnya, dapatan pada semua item berada pada tahap sederhana tinggi seperti yang ditunjukkan dalam jadual 12 dengan julat skor min berada di antara 3.01 hingga 4.00. Item S1 memberi skor min 3.80, manakala S2 dan S3 masing-masing mempunyai skor min 3.88 dan 3.78. Manakala S4 dan S5 memberi nilai yang sama iaitu 3.89. Skor min keseluruhan bagi dapatan ialah 3.85 dan ini menunjukkan bahawa tahap kesediaan sumber dan sokongan institusi untuk melaksanakan IoT dalam pengurusan tenaga berada pada tahap sederhana tinggi. Nilai sisihan piawai keseluruhan dapatan ialah 0.81, sekali gus mencerminkan bahawa terdapat perbezaan yang agak besar dalam pandangan responden mengenai kesediaan institusi untuk mengadaptasi teknologi IoT dalam pengurusan tenaga.

Jadual 12: Dapatan Kesediaan Sumber Dan Sokongan Untuk Pelaksanaan IoT

Soalan	Item	M	SP	Tahap
S1	Politeknik ini mempunyai sumber yang mencukupi untuk melaksanakan IoT dalam pengurusan tenaga.	3.80	0.80	Sederhana Tinggi
S2	Politeknik ini mempunyai tenaga pengajar yang kompeten untuk melatih penggunaan IoT.	3.88	0.83	Sederhana Tinggi
S3	Infrastruktur sedia ada di politeknik adalah sesuai untuk menyokong penggunaan IoT.	3.78	0.83	Sederhana Tinggi
S4	Pihak pengurusan politeknik menyokong penuh pelaksanaan teknologi IoT.	3.89	0.80	Sederhana Tinggi
S5	Politeknik ini sudah mula merancang penggunaan IoT dalam pengurusan tenaga.	3.89	0.79	Sederhana Tinggi
Min Keseluruhan		3.85	0.81	

Cabaran Dan Halangan Dalam Pelaksanaan IoT

Dapatan berkenaan cabaran dan halangan dalam perlaksanaan IoT ditunjukkan dalam jadual 13. Dapatan responden berada tahap tinggi pada setiap item dengan item S6, S7 dan S8 masing-masing memberi skor min 4.11, 4.07 dan 4.01. Pada S9 dan S10, skor min dicatatkan pada 4.01 dan 4.02. Skor min keseluruhan ialah pada 4.04 dan sisihan piawai keseluruhan pula berada

pada 0.73. Tahap tinggi pada skor min keseluruhan menunjukkan bahawa responden secara amnya bersetuju bahawa terdapat beberapa isu yang perlu diatasi untuk memastikan kejayaan pelaksanaan IoT. Nilai sisihan piawai yang sederhana menunjukkan bahawa pandangan responden secara relatifnya seragam, dengan sedikit perbezaan dalam tanggapan mereka terhadap cabaran pelaksanaan IoT.

Jadual 12: Dapatan Cabaran Dan Halangan Dalam Perlaksanaan IoT

Soalan	Item	M	SP	Tahap
S6	Kos pelaksanaan IoT menjadi halangan utama bagi pengurusan tenaga di politeknik.	4.11	0.73	Tinggi
S7	Kekurangan pengetahuan teknikal tentang IoT akan menyukarkan pelaksanaannya di sini.	4.07	0.70	Tinggi
S8	Infrastruktur yang sedia ada di politeknik tidak mencukupi untuk menyokong pelaksanaan IoT.	4.01	0.55	Tinggi
S9	Terdapat kebimbangan mengenai keselamatan data jika IoT digunakan di politeknik.	4.01	0.85	Tinggi
S10	Saya rasa penggunaan IoT akan menghadapi masalah penyelenggaraan berkaitan teknikal di politeknik.	4.02	0.80	Tinggi
Min Keseluruhan		4.04	0.73	

Rumusan Dapatan

Secara keseluruhannya skor min dan sisihan piawai bagi kajian berdasarkan persoalan kajian ditunjukkan dalam jadual 13. Berdasarkan jadual 13, skor min dan sisihan piawai keseluruhan bagi tahap kesediaan ialah 3.94 dan 0.83. Bagi dapatan berkenaan cabaran dan halangan pelaksanaan IoT, skor min dan sisihan piawai mencatatkan 3.95 dan 0.77. Ini menunjukkan secara keseluruhan, hasil dapat kajian berada pada tahap sederhana tinggi pada kedua-dua persoalan kajian yang diuji.

Jadual 13: Skor Min Dan Sisihan Piawai Keseluruhan Dapatan Kajian

Bil	Item	Min	Sisihan Piawai	Tahap
1	Kesediaan mengadaptasi teknologi IoT untuk menguruskan <i>phantom load</i>	3.94	0.83	Sederhana Tinggi
2	Cabaran dan halangan yang dihadapi untuk pelaksanaan IoT dalam pengurusan tenaga	3.95	0.77	Sederhana Tinggi

Perbincangan Dan Kesimpulan

Dapatan bagi persoalan kajian pertama menunjukkan bahawa responden mempunyai kesediaan dan minat yang tinggi untuk menggunakan teknologi IoT dalam pengurusan phantom load, dengan skor min keseluruhan (S1 - S5) = 3.99 dan sisihan piawai (SP) = 0.83. Responden percaya bahawa IoT dapat membantu mengurangkan pembaziran tenaga dan menunjukkan minat yang tinggi untuk mempelajari lebih lanjut tentang teknologi ini. Walaupun keyakinan terhadap kemahiran sendiri adalah sederhana tinggi, terdapat keperluan untuk latihan tambahan untuk meningkatkan keyakinan dan kemahiran responden. Nilai sisihan piawai yang tinggi pada item S3 (0.89) dan S4 (0.90) menunjukkan bahawa terdapat perbezaan dalam keyakinan terhadap kemahiran sendiri dan minat untuk mempelajari lebih lanjut tentang IoT. Ini menunjukkan keperluan untuk latihan tambahan dan usaha untuk meningkatkan kemahiran dan

minat di kalangan responden walaupun skor min pada item S3 (3.80) dan S4 (4.01) berada pada tahap sederhana tinggi dan tinggi.

Pengetahuan dan pendedahan kepada IoT berada pada tahap sederhana tinggi, dengan skor min keseluruhan (S6 - S10) = 3.69 dan sisihan piawai (SP) = 0.95. Ini menunjukkan keperluan untuk pendidikan dan latihan lanjutan untuk memastikan pemahaman dan pengetahuan yang lebih seragam di kalangan responden. Keyakinan terhadap keberkesanan dan manfaat IoT adalah tinggi, dengan skor min keseluruhan (S11 - S15) = 4.14 dan sisihan piawai (SP) = 0.72. Responden percaya bahawa IoT dapat meningkatkan keberkesanan pengurusan tenaga, menjimatkan kos, memberikan maklumat tepat mengenai penggunaan tenaga, dan mengurangkan *phantom load* melalui pemantauan dan kawalan automatik. Keyakinan yang tinggi ini mencerminkan penerimaan positif terhadap teknologi IoT sebagai alat yang berkesan untuk menangani masalah pembaziran tenaga di politeknik.

Bagi persoalan kajian kedua, responden menunjukkan keyakinan sederhana tinggi terhadap kesediaan politeknik untuk melaksanakan IoT dengan skor min keseluruhan (S1 - S5) = 3.85 dan sisihan piawai (SP) = 0.81. Responden percaya bahawa politeknik mempunyai sumber yang mencukupi, tenaga pengajar yang kompeten, dan sokongan dari pihak pengurusan untuk melaksanakan IoT. Dapatan sisihan piawai keseluruhan yang tinggi menunjukkan bahawa terdapat perbezaan dalam jawapan responden terhadap soalan-soalan yang berkaitan dengan sumber dan sokongan untuk melaksanakan IoT di politeknik. Ini mencerminkan jurang dalam pengalaman, pengetahuan, dan persepsi responden mengenai isu-isu yang dibincangkan. Walaupun terdapat keyakinan sederhana tinggi terhadap kesediaan politeknik untuk melaksanakan IoT, ketidakseragaman dalam jawapan menunjukkan keperluan untuk komunikasi dan sokongan yang lebih baik untuk meningkatkan keyakinan ini di kalangan responden.

Terdapat kebimbangan yang tinggi terhadap beberapa cabaran utama dalam pelaksanaan IoT, dengan skor min keseluruhan (S6 - S10) = 4.04 dan sisihan piawai (SP) = 0.73. Dapatan menunjukkan bahawa terdapat beberapa cabaran dan kebimbangan utama yang perlu diatasi bagi memastikan pelaksanaan IoT berjaya dilaksanakan di institusi. Ini termasuk kos pelaksanaan (item S1, M=4.11), kekurangan pengetahuan teknikal, infrastruktur yang tidak mencukupi, kebimbangan keselamatan data, dan masalah penyelenggaraan teknikal. Berdasarkan nilai sisihan piawai keseluruhan, terdapat kesepakatan yang baik di kalangan responden mengenai cabaran dan kebimbangan dalam pelaksanaan IoT di politeknik.

Secara keseluruhannya, dapatan responden bagi persoalan pertama (M = 3.94, SP = 0.83) dan persoalan kedua (M = 3.95, SP = 0.77) menunjukkan bahawa kesediaan untuk mengadaptasi IoT dalam pengurusan tenaga berkaitan di politeknik adalah sederhana tinggi. Responden mempunyai keyakinan terhadap potensi IoT dalam mengurangkan pembaziran tenaga, dan terdapat minat yang tinggi untuk mempelajari teknologi ini dengan lebih mendalam. Namun, pelbagai cabaran dari segi kekangan kos, kekurangan pengetahuan teknikal, infrastruktur yang tidak mencukupi, dan kebimbangan mengenai keselamatan data boleh menghalang pelaksanaan penuh IoT.

Gabungan antara usaha meningkatkan kesediaan dan mengatasi cabaran yang ada adalah penting untuk memastikan penggunaan IoT dalam pengurusan tenaga berkaitan *phantom load* dapat dilaksanakan secara berkesan. Justeru, bagi merapatkan jurang antara kesediaan dan cabaran ini, Politeknik Seberang Perlu perlu mengambil langkah proaktif seperti meningkatkan latihan dan kemahiran teknikal kepada kakitangan dan pelajar berkaitan IoT dan *phantom load*.

Individu yang diberi maklumat yang mencukupi dan mempunyai akses kepada program latihan lebih cenderung menerima dan menggunakan teknologi IoT dengan berkesan (Jabbari et al., 2023). Selain itu, institusi perlu menaik taraf serta menambah baik infrastruktur terutamanya berkaitan teknologi bagi menyokong pelaksanaan IoT dan memperkemaskan langkah-langkah keselamatan terutamanya yang melibatkan keselamatan data dalam penggunaan IoT untuk meningkatkan keyakinan responden. Dengan penyelesaian yang tepat, penggunaan IoT dalam pengurusan *phantom load* bukan sahaja dapat mengurangkan kos tenaga, tetapi juga meningkatkan keberkesanan operasi di institusi pendidikan.

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KESEDARAN & SIKAP PENSYARAH TERHADAP PENGURUSAN PHANTOM LOAD: SATU TINJAUAN DI JABATAN KEJURUTERAAN ELEKTRIK POLITEKNIK SEBERANG PERAI

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Abstract: *Pengurusan tenaga yang cekap memainkan peranan penting dalam mengurangkan jejak karbon dan pembaziran sumber tenaga di seluruh sektor, termasuk institusi pendidikan. Salah satu penyumbang utama pembaziran tenaga yang sering diabaikan ialah phantom load, iaitu penggunaan tenaga elektrik oleh peralatan yang berada dalam mod siap sedia. Di institusi seperti Politeknik Seberang Perai (PSP), yang menggunakan pelbagai peralatan elektrik untuk proses pengajaran dan pembelajaran, pengurusan phantom load menjadi semakin kritikal untuk memastikan kelestarian alam sekitar dan penjimatan kos operasi. Kajian ini bertujuan untuk menilai tahap kesedaran dan sikap pensyarah Jabatan Kejuruteraan Elektrik (JKE) terhadap pengurusan phantom load serta kesediaan mereka dalam mengamalkan langkah-langkah pengurangan penggunaan tenaga tidak perlu. Pendekatan kuantitatif digunakan dengan instrumen soal selidik yang melibatkan 49 responden. Dapatan kajian menunjukkan bahawa tahap kesedaran terhadap phantom load adalah tinggi, dengan skor min keseluruhan 4.27 dan sisihan piawai 0.54, yang mencerminkan pemahaman responden mengenai kesan negatif phantom load terhadap kos dan alam sekitar. Sikap positif terhadap pengurusan tenaga juga diperlihatkan dengan skor min keseluruhan 4.23 dan sisihan piawai 0.69, di mana responden bersedia untuk terlibat secara aktif dalam usaha mengurangkan pembaziran tenaga di tempat kerja. Kajian ini menyarankan agar institusi melaksanakan program latihan berkala dan kempen kesedaran untuk meningkatkan pengetahuan serta memperkukuh sikap positif pensyarah terhadap pengurusan tenaga yang lebih cekap.*

Keywords: *Phantom Load, Pengurusan Tenaga, Kesedaran, Sikap, Kecekapan Tenaga*

Pendahuluan

Pengurusan tenaga dan pengurangan jejak karbon adalah bidang yang penting dalam usaha memerangi perubahan iklim di Malaysia. Dalam industri penjanaan tenaga elektrik, jejak karbon wujud akibat pembakaran bahan fosil seperti arang batu dan gas asli. Di Malaysia, penggunaan sumber berasaskan gas asli dan petroleum menyumbang sehingga 76% dari keseluruhan sumber yang digunakan dalam industri penjanaan tenaga elektrik (Suruhanjaya Tenaga, 2022). Dalam usaha menangani pelepasan karbon, pengurusan tenaga adalah penting dalam mengurus dan mengurangkan penggunaan tenaga yang tidak perlu.

Pengurusan tenaga merujuk kepada aktiviti dalam memastikan penggunaan tenaga yang cekap dalam organisasi (SEDA Malaysia, 2019). Antara komponen yang sering diabaikan dalam pengurusan tenaga adalah berkenaan *phantom load*. *Phantom load* juga dikenali sebagai kuasa siap sedia atau *vampire load* ditakrifkan sebagai tenaga elektrik yang digunakan oleh peralatan elektrik yang tidak menjalankan fungsi utamanya atau tidak dimatikan (B. Mohanty, 2001). Selain dari itu, peranti elektrik yang telah dimatikan namun palam soket tidak dicabut dengan

sempurna dan berada dalam mod siap sedia turut menyumbang kepada kebocoran arus atau kuasa siap sedia juga mampu mewujudkan fenomena *phantom load* (Clement et al, 2007).

Latar Belakang Kajian

Fenomena *phantom load* ini menyumbang kepada penggunaan tenaga yang tidak perlu sekali gus menyebabkan berlakunya pembaziran tenaga yang ketara. Ini secara tidak langsung menyumbangkan kepada peningkatan kos bil utiliti elektrik dan kos operasi akibat dari penggunaan tenaga yang tidak cekap. Di institusi pendidikan seperti politeknik, peranan pensyarah adalah penting dalam mendidik dan mempromosikan amalan pengurusan tenaga yang berkesan. Pensyarah di jabatan kejuruteraan elektrik memainkan peranan yang signifikan dalam mendidik pelajar dan mempromosikan amalan penggunaan tenaga yang bijak. Kesedaran dan sikap mereka terhadap pengurusan *phantom load* akan mempengaruhi keberkesanan usaha mengurangkan pembaziran tenaga tidak perlu dan kos utiliti.

Pengurusan tenaga yang cekap adalah penting di institusi pendidikan seperti Politeknik Seberang Perai (PSP) untuk memastikan kelestarian terhadap alam sekitar dan pengurangan kos operasi. Kajian ini bertujuan menilai tahap kesedaran dan sikap terhadap pengurusan *phantom load* di Politeknik Seberang Perai khususnya di Jabatan Kejuruteraan Elektrik (JKE). Ini penting dalam usaha mengurangkan penggunaan tenaga yang tidak perlu dan menggalakkan amalan penggunaan tenaga yang bijak di kalangan pensyarah sekali gus menyumbang kepada usaha pengurangan pembaziran tenaga tidak perlu dan kos utiliti di Politeknik Seberang Perai khususnya di jabatan kejuruteraan elektrik.

Pernyataan Masalah

Politeknik Seberang Perai (PSP) merupakan politeknik ke-10 yang ditubuhkan oleh Kerajaan Malaysia dalam usaha menyediakan tenaga kerja berteraskan TVET iaitu Pendidikan Teknikal dan Latihan Vokasional. Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai menawarkan tiga program pengajian berasaskan disiplin dalam kejuruteraan elektrik dan elektronik dan proses pengajaran dan pembelajaran dilaksanakan di makmal, bengkel dan bilik kuliah di sekitar jabatan kejuruteraan elektrik. Dengan keberadaan makmal dan bengkel, ruang kerja akan dipenuhi pelbagai perkakasan dan peranti elektrik yang digunakan dalam aktiviti pengajaran dan pembelajaran, seperti set komputer, pencetak, mesin fotostat, telefon bimbit, kamera web, mesin pengimbas dan banyak lagi.

Secara amnya, pertambahan peranti elektrik di setiap ruang kerja di makmal dan bengkel akan meningkatkan kos utiliti elektrik dan secara tidak langsung juga meningkatkan penggunaan *phantom load* atau kuasa siap sedia. Sebanyak 48% dari keseluruhan tenaga yang dijana digunakan oleh sektor bangunan. Ini menjadikan sektor bangunan pengguna tenaga yang tertinggi (Zamri & Mohamad, 2012). Pertambahan dari penggunaan tenaga elektrik secara amnya akan menyumbang kepada peningkatan jejak karbon. Sebagai konteks di institusi pendidikan, penghasilan jejak karbon sebanyak 225,000 tCO₂ dianggarkan dapat dihasilkan dengan populasi seramai 30,000 orang dengan hanya melalui penggunaan elektrik (Kadaruddin et al, 2008).

Pertambahan kos yang melibatkan utiliti elektrik bukanlah sesuatu penunjuk yang baik dalam pengurusan suatu organisasi. Pengurusan tenaga yang cekap dan optimum mampu mengurangkan dan menjimatkan kos utiliti elektrik selain mampu menangani pembaziran melalui penggunaan tenaga tidak perlu. Penggunaan tenaga yang tidak cekap akibat *phantom*

load adalah isu yang kurang mendapat perhatian di institusi pendidikan. Walaupun banyak tumpuan telah diberikan kepada pengurusan tenaga, masih terdapat kekurangan pemahaman tentang kesan sebenar *phantom load* atau kuasa siap sedia serta langkah berkesan yang boleh diambil untuk mengurangkannya.

Terdapat keperluan untuk menilai tahap kesedaran dan sikap berkaitan pengurusan *phantom load* di kalangan warga Jabatan Kejuruteraan Elektrik di Politeknik Seberang Perai. Perubahan sikap, amalan dan kesedaran ini penting dalam usaha mengurangkan penggunaan tenaga yang tidak perlu dan menggalakkan amalan penggunaan tenaga yang bijak di kalangan pensyarah.

Objektif Kajian

Perlaksanaan kajian ini adalah untuk mencapai objektif berikut;

1. Mengenal pasti tahap kesedaran pensyarah Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai (JKE PSP) mengenai *phantom load*;
2. Mengkaji sikap pensyarah terhadap pengurusan tenaga berkaitan *phantom load*.

Persoalan Kajian

Persoalan kajian pula adalah seperti yang berikut;

1. Apakah tahap kesedaran pensyarah di Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai (JKE PSP) terhadap konsep *phantom load*?
2. Apakah sikap pensyarah terhadap pengurusan tenaga berkaitan *phantom load*?

Skop Kajian

Di Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai (JKE PSP) terdapat dua belas makmal, empat bilik kuliah dan sebuah bengkel bagi menampung proses pengajaran dan pembelajaran berbentuk kerja amali, bengkel dan kuliah berkaitan disiplin dalam kejuruteraan elektrik. Kajian ini hanya melibatkan tahap kesedaran, sikap dan cadangan pengurusan *phantom load* dalam penggunaan tenaga elektrik harian pensyarah di JKE PSP. Namun begitu, kajian ini tidak memfokuskan kepada kadar penggunaan setiap peranti elektrik di JKE PSP, jadual kerja, jadual kelas, aktiviti penyelidikan serta reka bentuk bangunan disebabkan kekangan masa dan kos untuk melaksanakan kajian lanjutan.

Sorotan Kajian

Pelbagai peranti elektrik moden dengan mod siap sedia kini wujud di dalam pasaran dan penggunaan tenaga bagi peranti ini biasanya kecil. Namun penggunaan peranti ini dalam tempoh masa yang lama menjadikan penggunaan tenaga di dalam mod ini menjadi signifikan. Walaupun peranti ini boleh membantu meningkatkan fleksibiliti dan meningkatkan prestasi, masih terdapat tenaga yang digunakan apabila mereka tidak menjalankan fungsinya (Harrington, 2008). Peranti elektrik yang mempunyai mod siap sedia dan menggunakan kuasa siap sedia ialah seperti televisyen yang menggunakan alat kawalan jauh, telefon tanpa wayar, pencetak, komputer riba dan mesin fotostat.

Kajian yang dijalankan di beberapa negara seperti Jerman, Jepun dan Amerika Syarikat merumuskan bahawa 10% dari penggunaan tenaga elektrik di kawasan perumahan adalah dari

phantom load (Ross & Meier, 2001). Manakala di Australia, kajian menunjukkan bahawa *phantom load* wujud sebanyak 12% (90W) dari keseluruhan penggunaan tenaga elektrik untuk penggunaan kawasan kediaman (Harrington, 2008). Penemuan yang serupa dilaporkan dalam kajian melibatkan kawasan kediaman di California, Amerika Syarikat, di mana *phantom load* menyumbang kepada 13% (112W) daripada jumlah penggunaan tenaga (Meier & Nordman, 2008). Sebagai perbandingan, penggunaan tenaga elektrik dalam mod siap sedia adalah kecil, sekitar 0.5W hingga 30W (Bertoldi et al., 2002). Walaubagaimanapun, secara kolektifnya jumlah penggunaan tenaga elektrik adalah signifikan kerana kuasa siap sedia atau *phantom load* digunakan selama 24 jam, selain dari lambakan peranti yang mempunyai ciri mod siap sedia berada di pasaran.

Dengan peningkatan penggunaan peranti elektrik yang meluas dan canggih serta pertambahan pembangunan rumah dan rangkaian pejabat, peningkatan *phantom load* boleh dijangka di masa akan datang jika tiada usaha menanganinya di peringkat negara dan antarabangsa (Mungwittitkul & Mohanty, 1997). Dalam mengurus penggunaan tenaga supaya menjadi lebih cekap dan mengurangkan pembaziran pengurusan tenaga haruslah dititikberatkan dan menjadi keutamaan bagi sesebuah organisasi atau institusi. Melalui pengurusan tenaga yang cekap, penjimatan dapat dilakukan dengan mengelakkan berlakunya fenomena *phantom load*. Pengurusan tenaga melalui pengawalan dan pengoptimuman penggunaan tenaga secara sistematik dalam bangunan dan organisasi untuk mengurangkan penggunaan dan kos tenaga serta meminimumkan impak alam sekitar (Turner, 2012).

Penggunaan peranti seperti *Advanced Power Strip (APS)* mampu menghapuskan *phantom load* dengan cara memutuskan aliran elektrik secara penuh apabila tidak digunakan (Earle & Sparn, 2012). Dalam konteks pengurusan tenaga, penggunaan APS di Amerika Syarikat untuk ruang hiburan dan kerja bagi sesebuah isi rumah mampu memberi penjimatan sehingga 106.1kWh per tahun (Koser & Uthe, 2011). Menurut Alahmad et al. (2011), pelaksanaan sistem tenaga pintar yang secara automatik memutuskan sambungan peranti dalam mod siap sedia boleh mengurangkan pembaziran tenaga. Walau bagaimanapun, kejayaan teknologi sebegini bergantung kepada penerimaan dan kepercayaan pengguna. Program kesedaran yang memfokuskan kepada penjimatan kos jangka panjang dan faedah kepada alam sekitar dapat mempengaruhi sikap pengguna secara positif dan meningkatkan kadar penerimaan.

Pembaziran tenaga elektrik melalui penggunaan tenaga yang tidak perlu akan memberi impak secara langsung kepada alam sekitar melalui jejak karbon akibat pelepasan gas rumah hijau. Jejak karbon ditakrifkan pelepasan gas rumah hijau seperti karbon dioksida (CO₂), metana (CH₄) dan nitrous oksida (N₂O) diukur dalam unit metrik ton setara karbon dioksida (CO₂e) akibat aktiviti manusia atau organisasi dalam penjanaan tenaga elektrik yang berasaskan pembakaran bahan fosil seperti gas asli dan arang batu (Franchetti & Apul, 2011). Penyumbang utama jejak karbon melalui pelepasan gas rumah hijau di Malaysia adalah dari industri penjanaan tenaga elektrik (Mahlia, 2002). Oleh itu, pengurusan tenaga yang cekap dan optimum mampu memberi kesan kepada penjimatan tenaga elektrik dalam usaha mengurangkan dampak penghasilan jejak karbon melalui pelepasan gas rumah hijau dan sekali gus memberi pulangan kewangan hasil dari penjimatan yang dilakukan. Punca utama berlakunya perubahan iklim adalah dari pelepasan gas rumah hijau yang disebabkan aktiviti manusia (Stern, 2007) terutamanya dalam industri penjanaan tenaga elektrik

Metodologi Kajian

Hasil kajian ditentukan oleh kaedah dah reka bentuk kajian. Reka bentuk penyelidikan adalah panduan kepada pendekatan kaedah yang sesuai digunakan untuk penyelidikan (Othman, 2001). Bagi kajian ini pendekatan kuantitatif melalui tinjauan digunakan. Kaedah tinjauan ialah satu kaedah yang mudah dan popular di kalangan penyelidik. Kaedah tinjauan merupakan kajian terhadap perkara atau senario yang sedang berlaku dan proses mendapatkan data dilaksanakan dalam tempoh tertentu sahaja.

Bagi kajian ini, borang soal selidik digunakan sebagai instrumen dalam pengumpulan data. Instrumen jenis ini adalah lebih sesuai digunakan kerana saiz populasi adalah besar. Pembinaan soal selidik ini menggunakan Skala Likert di mana, skor jawapan responden diukur seperti dalam Jadual 1. Borang soal selidik dibahagikan kepada 3 bahagian iaitu bahagian A untuk demografi, bahagian B untuk menilai tahap kesedaran dan bahagian C untuk menilai tahap sikap responden.

Jadual 1 : Skala Likert

Skor	Skala
1	Sangat Tidak Setuju
2	Tidak Setuju
3	Kurang Setuju
4	Setuju
5	Sangat Setuju

Sumber utama bagi mendapatkan data bagi sesuatu kajian adalah melalui sampel (Mohamad, 1999). Sampel bagi kajian ini terdiri dari pensyarah di JKE PSP. Responden bagi kajian ini terdiri daripada 52 orang dan dipilih melalui kaedah pensampelan tidak rawak jenis sampel bertujuan (*purposive sampling*). Kaedah ini dipilih dengan tujuan mendapatkan jumlah sampel yang mewakili populasi dan mampu menyumbang kepada dapatan kajian yang dikehendaki. Kaedah pengedaran borang soal selidik adalah melalui atas talian iaitu melalui medium *Jotform* berbentuk *quick-response (QR) code*.

Data kajian diperoleh melalui soal selidik akan dianalisis menggunakan perisian *Statistical Package for the Social Science (SPSS)* Versi 26. Kaedah deskriptif iaitu skor min dan sisihan piawai digunakan untuk menjawab persoalan dalam kajian ini. Untuk mendapatkan maklumat yang lebih tepat dan bermakna analisa kajian hendaklah menggunakan kaedah yang bersesuaian. Jadual 2 digunakan untuk interpretasi skor min bagi dapatan ini berdasarkan Skala Likert lima mata yang dibahagi kepada empat tahap menurut Nunally (1978).

Jadual 2: Interpretasi Skor Min

Nilai Min	Tahap Penilaian
1.00 - 2.00	Rendah
2.01 - 3.00	Sederhana Rendah
3.01 - 4.00	Sederhana Tinggi
4.01 -5.00	Tinggi

Dapatan Kajian

Perbincangan bagi hasil dapatan kajian dibahagikan kepada tiga bahagian. Bahagian pertama melibatkan profil responden pensyarah di Jabatan Kejuruteraan Elektrik Politeknik Seberang

Perai. Manakala bahagian kedua dan ketiga masing-masing melibatkan perbincangan melibatkan tahap kesedaran dan sikap pensyarah terdapat *phantom load* dan pengurusan tenaga melibatkan *phantom load*.

Bahagian A: Profil Responden

Sebanyak 49 dari 52 responden memberi maklum balas melalui borang soal selidik yang diedarkan secara atas talian melalui *Jotform*. Jadual 3 menunjukkan pecahan bilangan responden mengikut program.

Program	Bilangan	Peratusan (%)
Diploma Kejuruteraan Elektrik & Elektronik (DEE)	22	44.9
Diploma Kejuruteraan Elektronik (Komunikasi) (DEP)	12	24.5
Diploma Kejuruteraan Elektronik (Komputer) (DTK)	15	30.6

Dari hasil dapatan, seramai 22 orang (44.9%) responden adalah dari program Diploma Kejuruteraan Elektrik & Elektronik (DEE), 12 orang (24.5%) responden dari program Diploma Kejuruteraan Elektrokik (Komunikasi) (DEE) dan 15 orang (30.6%) adalah responden dari program Diploma Kejuruteraan Elektronik (Komputer) (DTK).

Bahagian B: Tahap Kesedaran Pensyarah Terhadap Phantom Load

Jadual 4 menunjukkan dapatan keseluruhan kajian berkenaan tahap kesedaran responden terhadap *phantom load*.

Jadual 4: Dapatan Keseluruhan Bagi Tahap Kesedaran

Bil	Item	N	Min (M)	Sisihan Piawai (SP)	Tahap
1	Saya tahu apa itu <i>phantom load</i> .	49	4.20	0.50	Tinggi
2	Saya sedar bahawa <i>phantom load</i> menyumbang kepada pembaziran tenaga.	49	4.43	0.61	Tinggi
3	Saya sedar bahawa peranti elektrik menggunakan tenaga walaupun dalam mod siap sedia.	49	4.63	0.49	Tinggi
4	Saya sedar akan kepentingan mengurangkan penggunaan tenaga elektrik yang tidak perlu.	49	4.20	0.50	Tinggi
5	Saya faham kesan <i>phantom load</i> terhadap bil elektrik	49	4.51	0.51	Tinggi
6	Saya sering memeriksa peranti elektrik untuk memastikan mereka tidak menggunakan tenaga secara berterusan.	49	4.04	0.71	Tinggi
7	Saya tahu langkah-langkah yang boleh diambil untuk mengurangkan <i>phantom load</i> .	49	4.16	0.66	Tinggi
8	Saya sering mengamalkan penggunaan tenaga dengan cekap di rumah dan tempat kerja.	49	4.12	0.39	Tinggi
9	Saya berpendapat bahawa mengurangkan penggunaan tenaga yang tidak perlu dapat mengurangkan impak negatif terhadap alam sekitar.	49	4.27	0.45	Tinggi

10	Saya sedar bahawa penggunaan teknologi cekap tenaga adalah penting dalam pengurusan <i>phantom load</i> .	49	4.18	0.49	Tinggi
Min Keseluruhan			4.27	0.54	

Dapatan yang ditunjukkan pada Jadual 4 adalah respon dari semua responden yang merangkumi 3 program di Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai. Data menunjukkan bahawa kesedaran mengenai *phantom load* adalah tinggi di kalangan responden dengan skor min keseluruhan $M = 4.27$ dan sisihan piawai, $SP = 0.54$. Pada item 3 iaitu “*Saya sedar bahawa peranti elektrik menggunakan tenaga walaupun dalam mod siap sedia*”, skor min yang dicatatkan adalah tertinggi iaitu $M = 4.63$ dengan konsistensi respon yang tinggi bersamaan $SP = 0.49$. Manakala asas bagi kesedaran *phantom load* berada pada item 1 yang memberi nilai $M = 4.20$ dan $SP = 0.5$. Skor min terendah adalah pada item 6, “*Saya sering memeriksa peranti elektrik untuk memastikan mereka tidak menggunakan tenaga secara berterusan*” dengan $M = 4.04$ dan sisihan piawai yang rendah iaitu $SP = 0.71$. Dapatan pada item 8, “*Saya sering mengamalkan penggunaan tenaga dengan cekap di rumah dan tempat kerja*” memberi nilai $SP = 0.39$ berbanding item lain yang diuji.

Perbandingan skor min dan sisihan piawai kesedaran terhadap *phantom load* di antara responden bagi setiap program ditunjukkan dalam Jadual 5.

Jadual 5: Perbandingan Antara Program

Bil	Item	DEE	DEP	DTK
1	Saya tahu apa itu <i>phantom load</i> .	4.36 0.58	3.92 0.29	4.20 0.41
2	Saya sedar bahawa <i>phantom load</i> menyumbang kepada pembaziran tenaga.	4.41 0.50	4.08 0.79	4.73 0.46
3	Saya sedar bahawa peranti elektrik menggunakan tenaga walaupun dalam mod siap sedia.	4.68 0.48	4.67 0.49	4.53 0.52
4	Saya sedar akan kepentingan mengurangkan penggunaan tenaga elektrik yang tidak perlu.	4.18 0.39	4.33 0.49	4.13 0.64
5	Saya faham kesan <i>phantom load</i> terhadap bil elektrik	4.59 0.50	4.50 0.52	4.40 0.51
6	Saya sering memeriksa peranti elektrik untuk memastikan mereka tidak menggunakan tenaga secara berterusan.	4.18 0.66	3.92 0.90	3.93 0.59
7	Saya tahu langkah-langkah yang boleh diambil untuk mengurangkan <i>phantom load</i> .	4.14 0.56	4.42 0.67	4.00 0.76
8	Saya sering mengamalkan penggunaan tenaga dengan cekap di rumah dan tempat kerja.	4.09 0.29	4.25 0.45	4.07 0.46
9	Saya berpendapat bahawa mengurangkan penggunaan tenaga yang tidak perlu dapat mengurangkan impak negatif terhadap alam sekitar.	4.36 0.49	4.17 0.39	4.20 0.41
10	Saya sedar bahawa penggunaan teknologi cekap tenaga adalah penting dalam pengurusan <i>phantom load</i> .	4.23 0.43	4.25 0.45	4.07 0.59
Min Keseluruhan		4.32 0.50	4.25 0.60	4.24 0.59

Secara keseluruhannya, responden dari program DEE mempunyai tahap kesedaran sedikit lebih tinggi dalam kebanyakan item yang diukur dengan skor min $M = 4.32$ berbanding

responden dari program DEP dan DTK, masing-masing dengan skor min M = 4.25 dan M = 4.24. Bagi item 1, “*Saya tahu apa itu phantom load*”, kesedaran responden dari program DEP adalah sederhana tinggi dengan skor min M = 3.92. Bagi responden dari program DEE dan DTK, kesedaran adalah berada pada tahap tinggi dengan masing-masing memberi skor min M = 4.36 dan M = 4.20. Selain itu, responden dari program DEP dan DTK memberi nilai skor min M = 3.92 dan M = 3.93 untuk item 6 di mana ia membawa maksud kesedaran responden dari program ini berada pada tahap sederhana tinggi. Pada item 6, skor min bagi responden DEE ialah M = 4.18. Kesedaran responden DTK berkenaan *phantom load* mampu menyumbang kepada pembaziran tenaga iaitu pada item 2 adalah tinggi dengan skor min M = 4.73. Manakala bagi responden DEE dan DEP skor min adalah M = 4.41 dan M = 4.08.

Dapatan menunjukkan, program DEE memperoleh sisihan piawai lebih rendah iaitu SP = 0.50 bagi kesemua item yang diuji berbanding bagi program DEP dengan SP = 0.60 dan DTK dengan SP = 0.59. Bagi item 5, “*Saya faham kesan phantom load terhadap bil elektrik*”, semua program memberi nilai sisihan piawai yang hampir sama dengan masing-masing memberi nilai DEE (SP = 0.50), DEP (SP = 0.52) dan DTK (SP = 0.51). Sisihan piawai bagi item 6, “*Saya sering memeriksa peranti elektrik untuk memastikan mereka tidak menggunakan tenaga secara berterusan*” untuk responden DEP menunjukkan variasi respon paling tinggi dengan SP = 0.90 berbanding responden DEE (SP = 0.66) dan DTK (SP = 0.59).

Bahagian C: Tahap Sikap Pensyarah Terhadap Pengurusan Tenaga Berkaitan Phantom Load

Jadual 6 menunjukkan dapatan keseluruhan responden berkenaan tahap sikap pensyarah terhadap pengurusan tenaga berkaitan *phantom load*.

Jadual 6: Dapatan Keseluruhan Bagi Tahap Sikap

Bil	Item	N	Min (M)	Sisihan Piawai (SP)	Tahap
1	Saya menganggap pengurusan phantom load penting untuk menjimatkan tenaga.	49	4.22	0.47	Tinggi
2	Saya prihatin terhadap isu pembaziran tenaga akibat <i>phantom load</i> .	49	4.22	0.55	Tinggi
3	Saya bersedia untuk mengubah tabiat penggunaan tenaga untuk mengurangkan <i>phantom load</i> .	49	4.27	0.60	Tinggi
4	Saya rasa penting untuk mengurangkan penggunaan tenaga peranti elektrik dalam mod siap sedia.	49	3.96	0.50	Sederhana Tinggi
5	Saya mematikan peranti elektrik selepas digunakan.	49	4.41	0.84	Tinggi
6	Saya mencabut palam peranti yang tidak digunakan untuk mengelakkan <i>phantom load</i> .	49	3.96	0.79	Sederhana Tinggi
7	Saya sentiasa memastikan komputer saya dalam keadaan <i>sleep</i> atau <i>shutdown</i> apabila tidak digunakan.	49	3.98	0.48	Sederhana Tinggi

8	Saya berasa bahawa latihan dan pendidikan mengenai pengurusan tenaga adalah penting untuk semua pensyarah.	49	4.41	0.76	Tinggi
9	Saya bersedia untuk menggalakkan rakan sekerja saya untuk turut serta dalam usaha mengurangkan <i>phantom load</i> .	49	4.29	0.74	Tinggi
10	Saya bersedia menyertai usaha pengurusan <i>phantom load</i> di tempat kerja.	49	4.55	0.77	Tinggi
Min Keseluruhan			4.23	0.69	

Dapatan yang ditunjukkan pada jadual 6 merupakan respon dari semua responden yang merangkumi 3 program di Jabatan Kejuruteraan Elektrik Politeknik Seberang Perai. Data menunjukkan sikap kalangan responden terhadap pengurusan tenaga yang berkaitan dengan *phantom load* adalah tinggi dengan skor min keseluruhan $M = 4.23$ dan sisihan piawai, $SP = 0.69$. Dapatan pada item 4 iaitu “*Saya rasa penting untuk mengurangkan penggunaan tenaga peranti elektrik dalam mod siap sedia*”, menunjukkan sikap responden berada tahap sederhana tinggi ($M = 3.96$, $SP = 0.50$). Selain itu, dapatan pada item 6 ($M = 3.96$, $SP = 0.79$) dan 7 ($M = 3.98$, $SP = 0.48$) juga meletakkan sikap responden pada tahap sederhana tinggi. Skor min tertinggi adalah pada item 10 ($M = 4.55$, $SP = 0.77$) iaitu “*Saya bersedia menyertai usaha pengurusan phantom load di tempat kerja*”. Manakala dapatan pada item 1 ($M = 4.22$, $SP = 0.47$) dan item 2 ($M = 4.22$, $SP = 0.55$) memberikan skor min sama, namun mempunyai nilai sisihan piawai yang sedikit berbeza. Sisihan piawai respon pada item 5 ($SP = 0.84$), iaitu “*Saya mematikan peranti elektrik selepas digunakan*” adalah yang tertinggi berbanding item lain yang diuji walaupun mempunyai skor min ($M = 4.41$) yang tinggi.

Perbandingan skor min dan sisihan piawai di antara responden bagi setiap program bagi sikap terhadap pengurusan tenaga berkaitan *phantom load* ditunjukkan dalam Jadual 7.

Jadual 7: Perbandingan Antara Program

Bil	Item	DEE	DEP	DTK
1	Saya menganggap pengurusan <i>phantom load</i> penting untuk menjimatkan tenaga.	4.23 0.43	4.33 0.49	4.13 0.52
2	Saya prihatin terhadap isu pembaziran tenaga akibat <i>phantom load</i> .	4.23 0.43	4.17 0.58	4.27 0.70
3	Saya bersedia untuk mengubah tabiat penggunaan tenaga untuk mengurangkan <i>phantom load</i> .	4.23 0.61	4.58 0.51	4.07 0.59
4	Saya rasa penting untuk mengurangkan penggunaan tenaga peranti elektrik dalam mod siap sedia.	4.09 0.53	3.83 0.58	3.87 0.35
5	Saya mematikan peranti elektrik selepas digunakan.	4.50 0.80	4.33 0.98	4.33 0.82
6	Saya mencabut palam peranti yang tidak digunakan untuk mengelakkan <i>phantom load</i> .	4.09 0.81	3.92 0.79	3.80 0.77
7	Saya sentiasa memastikan komputer saya dalam keadaan <i>sleep</i> atau <i>shutdown</i> apabila tidak digunakan.	3.95 0.49	3.92 0.51	4.07 0.46
8	Saya berasa bahawa latihan dan pendidikan mengenai pengurusan tenaga adalah penting untuk semua pensyarah.	4.14 0.83	4.50 0.80	4.73 0.46
9	Saya bersedia untuk menggalakkan rakan sekerja saya untuk turut serta dalam usaha mengurangkan <i>phantom load</i> .	4.00 0.76	4.42 0.79	4.60 0.51

10	Saya bersedia menyertai usaha pengurusan <i>phantom load</i> di tempat kerja.	4.23 0.92	4.75 0.62	4.87 0.35
Min Keseluruhan		4.17 0.68	4.28 0.69	4.27 0.58

Secara keseluruhannya, responden dari program DEP mempunyai tahap kesedaran sedikit lebih tinggi dalam kebanyakan item yang diukur dengan skor min $M = 4.28$ berbanding responden dari program DEE dan DTK, masing-masing dengan skor min $M = 4.17$ dan $M = 4.27$. Dari dapatan, tahap sederhana tinggi ditunjukkan pada item 4 iaitu “*Saya rasa penting untuk mengurangkan penggunaan tenaga peranti elektrik dalam mod siap sedia*” untuk responden DEP ($M = 3.83$, $SP = 0.58$) dan DTK ($M = 3.87$, $SP = 0.35$). Tahap sederhana tinggi juga ditunjukkan pada item 6 iaitu “*Saya mencabut palam peranti yang tidak digunakan untuk mengelakkan phantom load*” dari dapatan responden DEP ($M = 3.92$, $SP = 0.79$) dan DTK ($M = 3.80$, $SP = 0.77$). Responden DEE ($M = 3.95$, $SP = 0.49$) dan DEP ($M = 3.92$, $SP = 0.51$) mempunyai sederhana tinggi untuk item 7. Pada item 10, iaitu “*Saya bersedia menyertai usaha pengurusan phantom load di tempat kerja*”, responden DTK ($M = 4.87$, $SP = 0.35$) memberi nilai skor min tertinggi berbanding responden DEE ($M = 4.23$, $SP = 0.92$) dan DEP ($M = 4.87$, $SP = 0.62$). Responden DEE ($M = 4.00$, $SP = 0.76$) mempunyai tahap sederhana tinggi pada item 9 iaitu “*Saya bersedia untuk menggalakkan rakan sekerja saya untuk turut serta dalam usaha mengurangkan phantom load*” berbanding responden DEP ($M = 4.42$, $SP = 0.79$) DTK ($M = 4.60$, $SP = 0.51$) yang berada pada tinggi pada item yang sama diuji.

Dapatan menunjukkan, program DTK memperoleh sisihan piawai lebih rendah iaitu $SP = 0.58$ bagi kesemua item yang diuji berbanding program DEE dengan $SP = 0.68$ dan DTK dengan $SP = 0.69$. Pada item 5 iaitu “*Saya mematikan peranti elektrik selepas digunakan*”, nilai sisihan piawai bagi semua program adalah tinggi dengan DEE sebanyak $SP = 0.80$, DEP ($SP = 0.98$) dan DTK ($SP = 0.80$). Nilai sisihan piawai tertinggi bagi semua item yang diuji berada pada item 5, manakala nilai sisihan piawai yang terendah berada pada item 1. Konsistensi respon paling rendah dicatatkan pada item 10 bagi program DTK ($SP = 0.35$) bagi semua item yang diuji untuk semua program.

Perbincangan Dan Kesimpulan

Melalui analisis dapatan dari kajian yang dijalankan, menunjukkan responden secara amnya mempunyai tahap kesedaran tahap kesedaran keseluruhan pensyarah terhadap *phantom load* adalah tinggi, dengan min dan sisihan piawai keseluruhan $M = 4.27$ dan $SP = 0.54$. Pensyarah dari program DEE (Diploma Kejuruteraan Elektrik & Elektronik) mencatatkan min keseluruhan tertinggi, iaitu $M = 4.32$ ($SP = 0.50$), manakala pensyarah dari program DEP (Diploma Kejuruteraan Elektronik Komunikasi) mencatatkan $M = 4.25$ ($SP = 0.60$), dan pensyarah dari DTK (Diploma Kejuruteraan Elektronik Komputer) mencatatkan $M = 4.24$ ($SP = 0.69$). Variasi kecil ini menunjukkan bahawa pensyarah dari DEE mempunyai tahap kesedaran yang sedikit lebih tinggi, terutamanya pada aspek teknikal seperti pemahaman tentang *phantom load* dan kesan tenaga dalam mod siap sedia. Sebagai contoh, pada item 3, “*Saya sedar bahawa perkakas elektrik menggunakan tenaga walaupun dalam mod siap sedia*” mencatatkan min $M = 4.68$ ($SP = 0.48$) bagi pensyarah DEE, yang merupakan nilai tertinggi berbanding program lain. Walaupun variasi dalam sisihan piawai ini menunjukkan bahawa pensyarah dari program DEE ($SP = 0.50$) mempunyai tahap kesedaran yang lebih konsisten berbanding pensyarah DEP ($SP = 0.60$) dan DTK ($SP = 0.59$), tahap kesedaran secara keseluruhan dalam ketiga-tiga program adalah tinggi, yang mencerminkan kefahaman mereka terhadap isu *phantom load* dan pembaziran tenaga yang terlibat.

Sikap keseluruhan pensyarah terhadap pengurusan *phantom load* juga berada pada tahap tinggi, dengan min dan sisihan piawai keseluruhan berada pada $M = 4.23$ dan $SP = 0.69$. Pensyarah dari program DEE mencatatkan min keseluruhan $M = 4.23$ ($SP = 0.61$), diikuti oleh DEP dengan $M = 4.25$ ($SP = 0.60$), dan DTK dengan $M = 4.24$ ($SP = 0.69$). Ini menunjukkan bahawa pensyarah dari ketiga-tiga program mempunyai sikap yang sangat positif terhadap usaha pengurangan *phantom load*. Item 10 iaitu “*Saya bersedia menyertai usaha pengurusan phantom load di tempat kerja,*” yang mencatatkan min tertinggi bagi sikap dengan $M = 4.55$. Ini menunjukkan pensyarah dari semua program secara aktif ingin terlibat dalam usaha pengurusan tenaga di tempat kerja. Sisihan piawai tertinggi bagi sikap ialah pada item 5, “*Saya mematikan perkakas elektrik selepas digunakan*” ($M = 4.41$, $SP = 0.84$) menunjukkan terdapat variasi dalam tindakan pensyarah selepas menggunakan peralatan elektrik. Namun, secara keseluruhan, sikap mereka masih positif dan menyokong pengurusan *phantom load*, dengan semua program mencatatkan tahap sikap yang tinggi.

Secara keseluruhannya, hasil kajian ini membuktikan bahawa kesedaran dan sikap pensyarah terhadap pengurusan *phantom load* adalah positif dan konsisten, tanpa perbezaan yang ketara di antara program pengajian. Dengan dapatan min keseluruhan bagi kesedaran ($M = 4.27$, $SP = 0.54$) dan sikap ($M = 4.23$, $SP = 0.69$) menunjukkan bahawa kesedaran yang tinggi akan mendorong kepada sikap yang lebih positif, sekali gus menyediakan asas yang kukuh untuk menyokong usaha pengurangan *phantom load* di institusi pendidikan. Perbezaan dalam skor min dan sisihan piawai yang kecil di antara program menunjukkan bahawa usaha untuk meningkatkan kesedaran tentang *phantom load* dan menggalakkan sikap positif boleh dilaksanakan secara meluas di seluruh jabatan, tanpa perlu fokus khusus pada satu program sahaja. Pensyarah yang lebih sedar tentang pembaziran tenaga akibat *phantom load* cenderung untuk menunjukkan sikap yang lebih proaktif, seperti mematikan peralatan selepas digunakan dan menyertai usaha pengurangan *phantom load* di tempat kerja.

Bagi meningkatkan lagi kesedaran dan sikap di kalangan pensyarah dalam usaha mengurangkan penggunaan tenaga yang tidak perlu di samping menggalakkan amalan penggunaan tenaga yang bijak beberapa cadangan utama boleh dipertimbangkan. Antaranya program pendidikan dan latihan dengan modul latihan berkala yang ditawarkan secara dalam talian. Selain itu, kempen kesedaran berterusan mengenai kesan *phantom load* terhadap bil elektrik dan alam sekitar harus dilaksanakan, dengan penyampaian maklumat melalui pelbagai medium seperti email, poster, dan media sosial. Pelaksanaan audit tenaga secara berkala juga penting untuk mengenalpasti peralatan yang menggunakan tenaga secara tidak cekap, sekali gus meningkatkan kecekapan tenaga dan mengurangkan pembaziran. Cadangan ini akan menjadikan pengurusan tenaga berkaitan *phantom load* lebih efektif dan berkesan. Selain menjimatkan penggunaan tenaga yang tidak perlu, ia juga dapat mengurangkan jejak karbon, sekali gus mengurangkan impak negatif terhadap alam sekitar. Seluruh pihak perlu mengambil tanggungjawab dalam melaksanakan pengurusan *phantom load* ini secara semula jadi, tanpa tekanan atau arahan, agar usaha dan amalan ini menjadi sebahagian daripada rutin harian, sama ada di tempat kerja mahupun di rumah.

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MAKNA DENOTATIF DAN KONOTATIF PERKATAAN “NAZARA” DAN PECAHANNYA DALAM SAHIH BUKHARI

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Abstrak: Semantik merupakan bahagian linguistik yang membincangkan makna sesuatu perkataan. Penelitian makna terhadap sesuatu teks amat penting bagi memastikan penghayatan teks yang tepat, terutama dalam teks agama seperti al-Quran dan Hadis Nabawi. Banyak kajian memfokuskan pada semantik Al-Quran, namun kajian tentang makna perkataan ke atas teks hadis masih kurang diterokai. Kajian ini bertujuan untuk mengenalpasti makna denotatif dan konotatif perkataan nazara dan pecahannya di dalam Sahih Bukhari serta mengkategorikan makna mengikut jenisnya. Kajian ini bertujuan untuk membezakan makna literal (denotatif) perkataan nazara dan pecahannya daripada makna kontekstual (konotatif) di dalam Sahih Bukhari. Kajian ini menggunakan data sekunder, iaitu Sahih Bukhari dengan mengumpulkan hadis-hadis Qauli yang mengandungi perkataan nazara dan pecahannya. Dapatan kajian menunjukkan perkataan nazara dan pecahannya bukan sahaja merujuk kepada penglihatan fizikal, tetapi juga membawa maksud pandangan dengan mata hati, berfikir tentang sesuatu, dan meneliti dengan mendalam bergantung kepada konteksnya. Konotasi ini menekankan kedalaman makna yang terkandung dalam bahasa Nabi SAW, yang sering melangkaui maksud literal. Kajian ini menyimpulkan bahawa dimensi konotatif nazara dan pecahannya memperkayakan huraian dengan lebih jelas, serta memberikan pemahaman yang lebih mendalam tentang cara medan semantik yang halus berfungsi dalam wacana agama.

Kata Kunci: Denotatif, Hadis Nabawi, Konotatif, Semantik, Stilistik

Pengenalan

Semantik, sebagai cabang linguistik, memainkan peranan penting dalam memahami dimensi literal dan konotatif perkataan (Cruse, 2004), terutamanya dalam teks-teks yang memerlukan tafsiran mendalam seperti teks agama. Dalam konteks bahasa Arab, setiap perkataan sering mengandungi pelbagai lapisan makna yang melangkaui makna literal sesuatu perkataan. Analisis semantik perkataan dalam teks agama seperti al-Quran dan Hadis Nabawi penting bagi memastikan tafsiran yang tepat, terutamanya kerana teks ini menjadi rujukan utama umat Islam dalam aspek keagamaan dan kehidupan seharian (Rahman, 2012). Salah satu pendekatan yang semakin berkembang dalam kajian ini ialah penggunaan analisis semantik untuk menganalisis makna perkataan secara sistematik berdasarkan konteksnya.

Kajian terhadap makna perkataan dalam teks agama telah lama menjadi tumpuan dalam bidang linguistik dan pengajian Islam. Walaupun banyak kajian telah dilakukan terhadap semantik al-Quran (Marjiatun Hujaz et al., 2018; Derhana Bulan Dalimunthe, 2019; Nur Umi Luthfiana & Nur Huda, 2021; Asma Abdul Rahman & Sarah Husna M Rashid, 2021; Nur Halijah Zainal & Khazri Osman, 2022; Muhammad Luqman Ibnul Hakim Mohd Saad et al., 2023; Qaziah Fatimah Berhanuddin & Ahmed Talal Hassan, n.d.), kajian yang mendalam terhadap teks hadis masih terhad, khususnya dalam menganalisis makna perkataan tertentu berdasarkan dimensi denotatif dan konotatifnya. Perkataan seperti *basar* dan pecahannya sering kali hanya ditafsirkan secara literal sebagai "penglihatan," sedangkan penggunaannya dalam hadis menunjukkan pelbagai makna lain yang bergantung kepada konteks (Norfarhana Ahmad Ghafar et al., 2024). Kekurangan penyelidikan dalam bidang ini boleh menyebabkan salah tafsir terhadap teks hadis, yang seterusnya boleh menjejaskan pemahaman yang mendalam terhadap mesej yang disampaikan oleh Nabi Muhammad SAW.

Kajian ini bertujuan untuk menganalisis makna denotatif dan konotatif perkataan *nazara* dan pecahannya dalam hadis-hadis yang terdapat dalam Sahih Bukhari. Dengan menggunakan pendekatan semantik, kajian ini akan mengenal pasti konteks penggunaan perkataan *nazara* dan mengklasifikasikannya mengikut maknanya. Kajian ini bukan sahaja akan menyumbang kepada pemahaman yang lebih jelas terhadap teks hadis, tetapi juga memberikan pandangan baharu dalam bidang stilistik dan pengajian Islam.

Makna Konotatif dan Denotatif

Makna denotatif merujuk kepada makna langsung, eksplisit, atau literal sesuatu perkataan seperti yang ditakrifkan dalam kamus. Ia merupakan makna utama yang tidak bergantung pada konteks, emosi, atau hubungan budaya. Dalam kajian linguistik, makna denotatif menjadi asas untuk memahami fungsi sesuatu istilah dalam komunikasi (Chierchia & McConnell-Ginet, 1990). Sebagai contoh, perkataan *mawar* dalam erti denotatif merujuk kepada sejenis bunga yang dikenali dengan kelopak dan harumnya. Makna denotatif biasanya bersifat universal dan stabil merentasi pelbagai konteks, menjadikannya penting untuk kejelasan dan objektiviti dalam analisis bahasa, terutamanya dalam teks agama atau teknikal yang memerlukan ketepatan tinggi.

Makna konotatif, sebaliknya, merangkumi makna sekunder atau berkaitan yang diperoleh sesuatu perkataan berdasarkan konteks, budaya, emosi, atau pengalaman peribadi. Makna ini selalunya bersifat subjektif dan boleh berbeza-beza bergantung pada individu atau komuniti yang mentafsirkan perkataan tersebut (Chierchia & McConnell-Ginet, 1990). Sebagai contoh, perkataan *mawar* dalam erti konotatif mungkin melambangkan cinta, keghairahan, atau keindahan bergantung pada konteks budaya atau sastera. Dalam teks agama seperti al-Quran atau Hadis, makna konotatif sering memperkayakan kedalaman interpretasi bahasa, kerana perkataan boleh membawa makna rohani, moral, atau alegori yang melampaui definisi literalnya.

Memahami makna denotatif dan konotatif sangat penting, terutamanya dalam mentafsir teks yang memerlukan kejelasan dan kedalaman makna. Makna denotatif menyediakan asas untuk pemahaman asas, manakala makna konotatif menambah lapisan interpretasi yang dibentuk oleh konteks dan nuansa budaya. Dalam kajian agama, pengiktirafan terhadap interaksi antara kedua-dua dimensi makna ini membolehkan tafsiran teks suci yang lebih bernuansa dan tepat, sekali gus memudahkan penghargaan yang lebih mendalam terhadap kekayaan linguistik dan teologi yang terkandung di dalamnya.

Hadis Nabawi

Hadis Nabawi merujuk kepada segala yang disandarkan kepada Nabi Muhammad SAW sama ada dalam bentuk perkataan, perbuatan, pengakuan, atau sifat baginda (Subhi Saleh, 1963). Hadis memainkan peranan penting sebagai sumber kedua dalam syariat Islam selepas al-Quran. Ia berfungsi sebagai penjelas dan pelengkap kepada ayat-ayat al-Quran, memberikan panduan praktikal kepada umat Islam dalam aspek akidah, ibadah, akhlak, dan muamalat. Dari segi jenisnya, hadis terbahagi kepada beberapa kategori utama berdasarkan sifat dan sanadnya. Hadis sahih ialah hadis yang sanadnya bersambung, diriwayatkan oleh perawi yang adil dan kuat ingatan, bebas daripada kecacatan (*'illah*) dan keganjilan (*syaz*). Hadis hasan pula hampir sama dengan hadis sahih tetapi terdapat kelemahan ringan pada perawinya. Hadis daif ialah hadis yang mempunyai kelemahan sama ada pada sanad, perawi, atau matannya. Selain itu, hadis juga diklasifikasikan berdasarkan cara ia disampaikan, seperti mutawatir dan ahad, yang masing-masing bergantung kepada bilangan perawi dalam sanadnya.

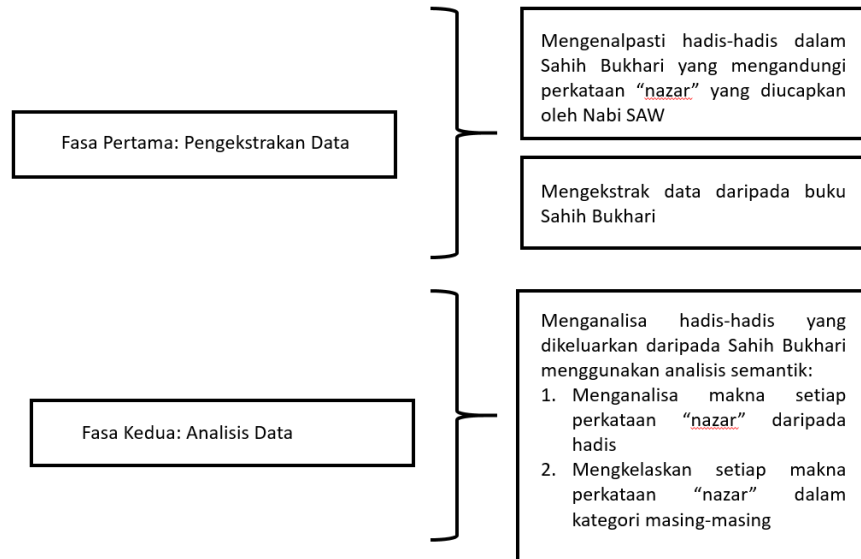
Hadis Qauli merujuk kepada kata-kata atau ucapan Nabi Muhammad SAW yang diriwayatkan oleh para sahabat dan dicatatkan dalam pelbagai kitab hadis. Ia adalah jenis hadis yang paling banyak ditemui dalam koleksi hadis kerana ia merakamkan panduan, nasihat, dan arahan baginda secara langsung dalam bentuk perkataan. Hadis Qauli penting dalam menjelaskan pelbagai isu syariat yang memerlukan perincian yang tidak disebut secara eksplisit dalam al-Quran. Sebagai contoh, perintah untuk mendirikan solat disebut dalam al-Quran, tetapi kaedah pelaksanaannya diperincikan dalam hadis Qauli. Hadis ini juga sering kali digunakan untuk menjawab persoalan yang diajukan kepada Nabi Muhammad SAW oleh para sahabat, menjadikan kandungannya bersifat spesifik dan kontekstual. Dengan memahami hadis Qauli, umat Islam dapat menghuraikan makna sebenar nas-nas agama dan melaksanakan ajaran Islam dengan lebih tepat dan praktikal.

Sahih Bukhari

Sahih Bukhari merupakan salah satu kitab hadis paling sahih dan diiktiraf dalam tradisi Islam, disusun oleh Imam al-Bukhari (194H-256H). Nama lengkapnya ialah *al-Jami' al-Musnad al-Sahih al-Mukhtasar min Umur Rasulillah SAW wa Sunanihi wa Ayyamihi* (Al-Bukhari, 1980). Kitab ini mengandungi koleksi hadis-hadis yang dianggap memenuhi kriteria ketat kesahihan, seperti sanad yang bersambung, perawi yang adil dan dipercayai, serta bebas daripada kecacatan (*'illah*) atau keganjilan (*syaz*). Imam al-Bukhari menghabiskan hampir 16 tahun untuk menyusun kitab ini, meneliti ribuan hadis dan hanya memilih sekitar 7,563 hadis (termasuk hadis berulang) yang mencapai tahap kesahihan tertinggi. Sahih Bukhari dibahagikan kepada 97 kitab (buku) bermula dengan kitab Permulaan Wahyu dan berakhir dengan kitab Tauhid, yang merangkumi pelbagai aspek kehidupan, seperti akidah, ibadah, muamalat, akhlak, sejarah, dan peristiwa penting dalam kehidupan Nabi Muhammad SAW. Sahih Bukhari tidak hanya berfungsi sebagai sumber rujukan utama dalam ilmu hadis, tetapi juga sebagai panduan penting bagi umat Islam dalam memahami dan mengamalkan ajaran Islam. Keistimewaan Sahih Bukhari terletak pada metodologi penyusunannya yang teliti serta penerimaan meluas di kalangan ulama hadis, menjadikannya kitab yang paling dipercayai selepas al-Quran.

Metodologi

Kajian ini merupakan sebuah penyelidikan kualitatif yang menggunakan pendekatan analisis teks. Data utama bagi kajian ini diperoleh daripada Sahih Bukhari. Penyelidikan ini dijalankan dalam dua fasa: fasa pengumpulan data dan fasa analisis data.



Gambarajah 1: Dua fasa utama kajian

Fasa Pertama: Pengekstrakan data dilakukan dengan mengenal pasti hadis-hadis yang mengandungi perkataan *nazara* dalam Hadis Qauli di dalam Sahih Bukhari. Penyelidik memberi tumpuan kepada perkataan *nazara* dan pecahannya, termasuk *naazir*, *yantaziru*, *intaziru*, *unzuru*, *unzur*, *anzur*, dan *nazrah*. Sebanyak 43 hadis mengandungi perkataan *nazara* dan pecahannya.

Fasa Kedua: Perkataan yang diucapkan oleh Nabi SAW dalam hadis-hadis terpilih dianalisis menggunakan makna perkataan *nazara* yang telah dikeluarkan oleh Norfarhana Ahmad Ghafar & Hishomudin Ahmad (2023) daripada kamus Lisan Arab oleh Ibn Manzur. Data tersebut dikaji dari perspektif semantik dengan mengkategorikan makna yang diperoleh daripada perkataan *nazara* dan pecahannya kepada dua bahagian: (1) makna denotatif atau makna utama, dan (2) makna konotatif atau makna yang melangkaui makna utama.

Dapatan dan Perbincangan

Terdapat 43 hadis yang mengandungi perkataan *nazara* dan pecahannya dalam Sahih Bukhari:

Jadual 1: Taburan perkataan *nazara* dan pecahannya dalam Sahih Bukhari

Nama Kitab	Bab	Nombor Hadis	Perkataan
Ilmu	Penulisan Ilmu	112	النظرين
Solat	Cara penganugerahan solat ketika Israa'	349	نظر، نظر، نظر، نظر
Solat	Jika solat dengan memakai baju bergambar dan memandang kepada gambar tersebut	373	أنظر

Waktu-waktu solat	Menunaikan solat ketika panas terik bersangatan	535	انتظر، انتظر
Waktu-waktu solat	Kelebihan s olat Isyak	566	ينتظر
Waktu-waktu solat	Melewatkan solat Isyak bagi yang terlalu mengantuk	570	ينتظر
Azan	Kelebihan solat berjemaah	647	انتظر
Azan	Kelebihan solat Subuh berjemaah	651	ينتظر
Azan	Kelebihan memunggu waktu solat dan kelebihan masjid	661	انتظرتموها
Dua Hari Raya	Lembing dan perisai pada hari raya	950	تنظرين
Amalan dalam solat	Perkara yang diharuskan semasa solat	1210	فتتظروا
Zakat	Kewajipan berzakat	1397	ينظر، فليينظر
Haji	Firman Allah berkenaan Haji merupakan bulan yang tertentu	1560	أنظر كما
Jual beli	Meringankan beban hutang orang kaya	2077	ينظر، أنظر، أنظر
Jual beli	Peniaga perlu memerah susu haiwan peliharaan	2150	النظرين
Memberi minuman	Kesalahan tidak memberi air kepada ibn sabil	2358	ينظر
Permulaan kehidupan	Kelebihan mengucapkan Amin	3231	فنظرت
Hadis tentang Nabi	Firman Allah berkenaan kelebihan Nabi Ibrahim	3350	ينظر
Hadis tentang Nabi	Firman Allah berkenaan kelebihan Nabi Ibrahim	3355	فانظر، أنظر
Hadis tentang Nabi	Cerita tentang Bani Israel	3452	انظروا
Kelebihan Nabi SAW dan pengikutnya	Tanda kenabian dalam Islam	3610	ينظر، ينظر، ينظر
Kelebihan para Sahabat	Tiada	3665	ينظر
Kelebihan orang Ansar	Hadis berkenaan Isra'	3886	أنظر
Peperangan	Pembunuhan Abu Jahal	3963	ينظر
Peperangan	Peperangan Khaibar	4232	تتظروهم
Peperangan	Peletakan bendera pada hari Pembukaan Kota Mekah	4280	ينظر
Tafsir al-Quran	Firman Allah pada surah Maryam	4730	ينظرون، وينظرون
Tafsir al-Quran	Firman Allah pada surah ar-Rahman	4880	ينظروا
Kelebihan al-Quran	Beroleh ketenangan dan dikelilingi malaikat semasa membaca al-Quran	5018	ينظر
Kelebihan al-Quran	Membaca al-Quran daripada hati	5030	فانظر، انظر
Perkahwinan	Tiada penyusuan selepas tempoh 2 tahun	5102	انظرن
Perkahwinan	Larangan bercerita mengenai perempuan lain kepada suami	5240	ينظر
Perubatan	Ruqyah melalui pandangan	5739	النظرة

Pakaian	Orang yang melabuhkan pakaian dengan tujuan riyak dan sombong	5788	ينظر
Meminta keizinan	Zina melalui pandangan mata	6243	النظر
Meminta keizinan	Tidur waktu tengahari di dalam masjid	6280	انظر
Melembutkan hati	Melihat orang yang kurang daripada kita dari sudut harta dan rupa	6490	نظر، فلينظر
Melembutkan hati	70 ribu orang masuk syurga tanpa hisab	6541	فنظرت، انظر، فنظرت
Melembutkan hati	Telaga Nabi SAW	6593	أنظر
Janji dan sumpah	Perihal sumpah Nabi SAW	6636	فنظرت، فنظر
Hukum Faraid	Pakar penentu nasab keturunan	6770	نظر
Hukuman Hudud	Penentuan kepastian perbuatan zina	6824	نظرت
Tauhid	Firman Allah SWT berkenaan orang yang mengubah ayat Allah	7508	فانظروا

Jadual 1 menunjukkan dapatan hadis Qauli daripada Sahih Bukhari yang mengandungi perkataan *nazara* dan pecahannya. Terdapat 65 perkataan *nazara* dan pecahannya dalam 43 hadis yang berasal daripada 27 buah kitab dalam Sahih Bukhari. Kitab-kitab tersebut termasuk Kitab Ilmu, Kitab Solat, Kitab Waktu-waktu Solat, Kitab Azan, Kitab Perbuatan dalam Solat, Kitab Dua Hari Raya, Kitab Zakat, Kitab Haji, Kitab Jual beli, Kitab Memberi minuman, Kitab Permulaan Kehidupan, Kitab Hadis tentang Nabi-nabi, Kitab Kelebihan Nabi SAW dan pengikutnya, Kitab Kelebihan para Sahabat, Kitab Kelebihan orang Ansar, Kitab Peperangan, Kitab Tafsir al-Quran, Kitab Kelebihan al-Quran, Kitab Perkahwinan, Kitab Perubatan, Kitab Pakaian, Kitab Meminta Keizinan, Kitab Melembutkan hati, Kitab Janji dan sumpah, Kitab Hukum Faraid, Kitab Hukuman Hudud dan Kitab Tauhid.

Berdasarkan perkataan *nazara* dan pecahannya dalam hadis-hadis tersebut, penyelidik akan mengklasifikasikannya mengikut maknanya, sama ada bersifat denotatif atau konotatif.



Gambarajah 2: Makna perkataan nazara dan pecahannya dalam Sahih Bukhari

Gambarajah 2 menunjukkan makna perkataan *nazara* dan pecahannya dalam Sahih Bukhari. Terdapat perbezaan makna walaupun perkataan tersebut berasal daripada akar kata yang sama.

Dalam Sahih Bukhari, terdapat lima makna bagi perkataan *nazara* dan pecahannya, iaitu deria mata, melihat dengan mata hati, sangkaan, memandang menggunakan mata, dan tiada rahmat.

Berdasarkan gambarajah 2, terdapat beberapa entri untuk perkataan *nazara* dalam Sahih Bukhari. Makna pertama ialah deria mata yang muncul sebanyak 34 kali, manakala empat makna lain, iaitu yang paling bersangka sebanyak 19 kali, pengamatan sebanyak 6 kali dan melihat dengan mata hati dan tiada rahmat masing-masing berulang sebanyak 3 kali.

Jadual 2: Makna denotatif dan konotatif perkataan *nazara* dan pecahannya dalam Sahih Bukhari

Nombor Hadis	Perkataan	Makna denotatif	Makna konotatif
112	النظرين		√
349	نظر، نظر، نظر، نظر	√√√√	
373	أنظر	√	
535	انتظر، انتظر		√√
566	ينتظر		√
570	ينتظر		√
647	انتظر		√
651	ينتظر		√
661	انتظرتموها		√
950	تنظرين	√	
1210	فتتظروا	√	
1397	ينظر، فليتنظر	√√	
1560	أنظركما		√
2077	ينظر، أنظر، أنظر		√√√
2150	النظرين		√
2358	ينظر		√
3231	فنظرت	√	
3350	ينظر	√	
3355	فانظر، أنظر	√√	
3452	انظروا		√
3610	ينظر، ينظر، ينظر، ينظر	√√√√	
3665	ينظر		√
3886	أنظر	√	
3963	ينظر	√	
4232	تتظروهم		√
4280	ينظر		√
4730	ينظرون، وينظرون		√√
4880	ينظروا	√	
5018	ينظر	√	
5030	فانظر، انظر		√√
5102	انظرن		√
5240	ينظر	√	
5739	النظرة	√	
5788	ينظر		√
6243	النظر	√	
6280	انظر	√	

6490	نظر، فلينظر	√√	
6541	فنظرت، انظر، فنظرت	√√√	
6593	أنظر	√	
6636	فنظرت، فنظر		√√
6770	نظر		√
6824	نظرت	√	
7508	فانظروا	√	

Jadual 2 menunjukkan pecahan makna konotatif dan denotatif perkataan *nazara* dan pecahannya dalam Sahih Bukhari. Makna literal perkataan *nazara* ialah deria mata. Makna ini merupakan yang paling banyak muncul dalam kajian ini, iaitu sebanyak 33 kali, dalam hadis bernombor 349, 373, 950, 1210, 1397, 3231, 3350, 3355, 3610, 3886, 3963, 4880, 5018, 5240, 5739, 6243, 6280, 6490, 6541, 6593, 6824 dan 7508. Semua perkataan *nazara* dalam hadis-hadis ini membawa maksud literal *nazara*, iaitu deria mata sebagai alat untuk melihat. Sebagai contoh, perkataan أنظر dalam hadis bernombor 373 merujuk kepada anjuran Nabi Muhammad SAW supaya tidak memakai baju bercorak yang menarik perhatian sekiranya hendak menunaikan solat bimbang corak tersebut akan mengganggu perhatian orang yang sedang menunaikan solat. Dalam hadis tersebut, Nabi SAW menyifatkan solat boleh terganggu sekiranya ada orang memakai baju bercorak kerana leka memandang kepada corak tersebut dan tidak dapat menghadirkan diri dalam solat secara total (Ahmad ibn Ali ibn Hajar al-'Asqalani, n.d.). Jadi, perkataan *nazara* di dalam hadis membawa maksud memandang dengan mata.

Terdapat beberapa makna yang memerlukan perhatian dan penelitian agar teks dapat difahami dengan tepat. Sebahagian daripada makna ini muncul dalam konteks tertentu dan membawa makna literal. Ada yang digunakan secara meluas dalam teks, manakala ada yang tidak. Dalam kajian ini, makna konotatif muncul sebanyak 27 kali berbanding makna denotatif. Makna konotatif tersebut ialah melihat dengan mata hati, bersangka, pengamatan, dan tiada rahmat. Sebagai contoh, Nabi Muhammad SAW merujuk kepada perkataan ينظر di dalam hadis bernombor 5788 sebagai tiada rahmat (Shihab al-Din Abi al-Abbas Ahmad Muhammad as-Syafi'e al-Qastalani, 1996). Hadis ini menerangkan tentang larangan melabuhkan pakaian dengan tujuan takabbur kerana bimbang tidak mendapat rahmat Allah SWT di akhirat kelak.

Makna konotatif lain boleh ditemui dalam hadis bernombor 6770. Hadis ini membincangkan pensabitan nasab berdasarkan persamaan antara satu orang dengan orang yang lain atau ilmu genetik atau ilmu al-Qiyafah. Dalam konteks ini, perkataan نظر membawa maksud penelitian atau pengamatan seorang ahli Qiyafah terhadap tapak kaki Usamah ibn Zaid dan bapanya Zaid ibn Harithah dan menyabitkan bahawa keduanya merupakan anak dan bapa (Badr al-Din Abi Muhammad Mahmud al-'Ainiy, 2001). Ini kerana rupa keduanya berbeza sehinggalah ada orang menyangkan bahawa Usamah bukan anak kepada Zaid. Berita ini amat menggembarakan Nabi SAW.

Kesimpulan

Kajian ini menunjukkan bahawa kefahaman terhadap makna denotatif dan konotatif perkataan *nazara* adalah elemen asas dalam memastikan tafsiran teks agama dilakukan dengan tepat. Makna denotatif merujuk kepada maksud asas dan literal sesuatu perkataan, manakala makna konotatif mencerminkan konteks dan maksud tersirat yang lebih mendalam. Dalam analisis ini, perbezaan antara kedua-dua makna ini menjadi jelas apabila makna literal *nazara* sebagai

"melihat" dipertimbangkan bersama makna konotatifnya, seperti "memahami," "merenung," atau "mengamati" dalam konteks tertentu. Oleh itu, memahami kedua-dua lapisan makna ini sangat penting dalam memberikan pemahaman yang menyeluruh terhadap teks agama Islam, sekali gus memastikan mesej yang disampaikan oleh teks tersebut dapat difahami dengan tepat dan mendalam.

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ANALISIS KITARAN SILUET BAJU KURUNG MULAI TAHUN 2010 SEHINGGA TAHUN 2023

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Abstrak: Baju kurung merupakan pakaian tradisional Melayu yang telah mengalami evolusi seiring perubahan zaman dan pengaruh budaya moden. Pada asalnya ia digayakan oleh golongan istana dan bangsawan, kini baju kurung menjadi pakaian harian wanita dari pelbagai lapisan masyarakat. Evolusi ini melibatkan perubahan dalam potongan, corak, dan elemen ragam hias, namun ciri asasnya sebagai pakaian yang sopan dan elegan tetap dikekalkan. Selain fungsi harian, baju kurung juga sering digunakan dalam acara formal seperti majlis pernikahan dan perayaan budaya. Siluet baju kurung memainkan peranan penting dalam mencerminkan estetika reka bentuk serta melambangkan kesopanan dan nilai tradisional. Melalui kitaran fesyen yang terdiri daripada lima peringkat - pengenalan, pertumbuhan, kematangan, penurunan, dan keusangan, baju kurung terus relevan dalam arus fesyen global. Kajian ini menggunakan pendekatan kualitatif dengan data primer diperoleh melalui pemerhatian dan kajian lapangan, manakala data sekunder dikumpul melalui analisis teks dan sumber dalam talian. Pendekatan ini memastikan ketepatan dapatan kajian dan memberikan gambaran jelas tentang evolusi baju kurung sebagai simbol warisan budaya dan adaptasi moden. Hasil kajian ini telah menghimpunkan siluet baju kurung mulai 2010-2023 yang mana terdapat faktor pengaruh yang telah dikenalpasti yang menjadi nadi perubahan dan penggunaannya dalam masyarakat.

Kata Kunci: Analisis, Kitaran Siluet, Baju Kurung, 2010-2023

Pengenalan

Malaysia merupakan sebuah negara yang mempunyai pelbagai warisan dan budaya yang wujud daripada kepelbagaian kaum serta etnik. Antara contoh warisan dan budaya tersebut adalah pakaian tradisional. Terdapat pelbagai jenis kain dan siluet pakaian tradisional dengan berbagai bentuk serta warna yang menjadi kebanggaan Malaysia. Antara pakaian tradisional yang terdapat di Malaysia ialah baju kurung, baju Melayu, Ceongsam, Samfu, Sari, dan pelbagai lagi. Daripada ke semua pakaian tradisional tersebut, baju kurung dapat dikenalpasti daripada siluet yang berbeza mengikut negeri di Malaysia. Justeru itu, terdapat dua objektif kajian ini dijalankan iaitu untuk mengenalpasti jenis-jenis baju kurung di Malaysia dan mengilustrasikan siluet baju kurung mulai 2010-2023.

Tinjauan Literatur

Sejarah Dan Perkembangan Baju Kurung

Baju kurung merupakan salah satu pakaian tradisional yang menjadi identiti wanita Melayu. Pakaian ini telah wujud lebih daripada 600 tahun dan menjadi lambang kebanggaan serta warisan budaya masyarakat Melayu sejak era Kesultanan Melaka pada abad ke-15 (Asliza, 2014). Asal usul baju kurung juga dipengaruhi oleh proses asimilasi budaya yang dibawa oleh pedagang asing yang singgah di Tanah Melayu (Siti Zainon Ismail, 2006). Menurut Kamus Dewan Bahasa dan Pustaka, baju kurung merujuk kepada pakaian tradisional Melayu yang direka dengan leher berbentuk bulat, sedikit bukaan di bahagian dada, lengan panjang, serta mempunyai pesak di kiri dan kanan. Siti Zainon Ismail (1997) pula menjelaskan bahawa istilah “kurung” membawa maksud “mengurung” atau “menutup anggota tubuh,” selaras dengan tujuan pakaian ini yang menitikberatkan aspek kesopanan. Baju kurung bukan sahaja terkenal di Malaysia, tetapi juga di Brunei dan Indonesia yang menjadikannya sebagai simbol budaya serantau yang penting. Sejarah baju kurung sangat erat dengan zaman Kesultanan Melaka, di mana ia dipercayai dicipta untuk memenuhi keperluan wanita Muslim dalam menjaga aurat. Perkataan “kurung” itu sendiri berasal daripada bahasa Melayu, yang bermaksud “menangkap” atau “memeluk,” mencerminkan fungsi pakaian ini sebagai pelindung tubuh dan simbol kesopanan.

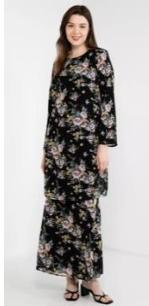
Baju kurung yang telah bertahan selama berabad-abad, kini mengalami evolusi dalam rekaan fesyen akibat pengaruh budaya moden. Pada asalnya, baju kurung dikenakan oleh wanita daripada golongan istana, bangsawan, serta individu yang berada dalam kelas sosial tertinggi. Namun, dengan perubahan zaman, baju kurung telah menjadi pakaian harian yang diterima secara meluas oleh wanita dari pelbagai lapisan masyarakat. Dalam era moden, baju kurung terus berkembang dari segi reka bentuk, termasuk perubahan pada potongan, corak, dan penggunaan elemen ragam hias yang lebih bervariasi. Pakaian tradisional ini kini bukan sahaja berfungsi sebagai pakaian harian, tetapi juga sering digunakan dalam acara-acara formal seperti majlis pernikahan, acara budaya, dan perayaan. Meskipun melalui pelbagai revolusi dalam reka bentuk dan penggunaan, baju kurung tetap mempertahankan ciri-cirinya yang asli sebagai pakaian yang sopan dan elegan. Baju kurung terus memancarkan nilai-nilai tradisional yang kuat, menjadikannya simbol perpaduan antara warisan budaya dan penyesuaian kepada perubahan moden.

Kepelbagaian Siluet Pada Baju Kurung

Siluet merujuk kepada struktur luar yang terbentuk daripada garisan yang menggambarkan bentuk tubuh, manakala reka bentuk dalamnya mencerminkan visi atau bayangan masa hadapan. Fungsi utama siluet adalah memberikan representasi visual yang jelas terhadap sesuatu imej atau rekaan. Dalam konteks fesyen, siluet sering digunakan oleh pereka untuk mengilustrasikan idea awal rekaan mereka, memberikan gambaran asas kepada konsep yang ingin diwujudkan. Siluet bukan sekadar kerangka visual, ia turut melibatkan elemen seperti garisan, jisim, komposisi, ruang, warna, dan tekstur. Setiap rekaan fesyen memiliki siluet yang unik, yang mencerminkan identiti serta fungsi rekaan tersebut. Selain itu, perkembangan trend fesyen memainkan peranan penting dalam mempengaruhi evolusi siluet yang menjadikannya satu komponen dinamik dalam dunia reka bentuk fesyen. Kepentingan penghasilan siluet dalam rekaan fesyen tidak dapat dinafikan, kerana ia memastikan visualisasi konsep dapat difahami dengan jelas oleh pemerhati. Daripada Rebecca Arnold dalam bukunya *Know-It-All Fashion* (2018), siluet menggambarkan bentuk keseluruhan pakaian pada tubuh manusia. Dalam bentuk visual, ia sering digambarkan melalui garisan hitam dan putih, yang membantu mengilustrasikan bagaimana estetika fesyen berubah mengikut masa.

Dalam konteks pakaian tradisional seperti baju kurung, terdapat pelbagai jenis siluet yang mencerminkan evolusi dan pengaruh budaya terhadap reka bentuk pakaian ini. Siluet baju kurung tidak hanya menunjukkan estetikanya tetapi juga peranannya dalam melambangkan kesopanan dan tradisi. Siluet dapat dilihat dalam garisan hitam putih yang membantu menentukan bagaimana estetika visual fesyen berubah. Berikut merupakan beberapa jenis siluets berkaitan dengan baju kurung hasil kajian lapangan penyelidikan;

Jadual 1: Jenis Siluet pada Baju Kurung

Siluet	<i>A-Line</i>	<i>Empire</i>	<i>Mermaid</i>	<i>Sheath</i>	<i>Ball Gown</i>
					
Kategori	Kurung Pahang	Kurung tradisional	Kurung moden	Kurung Kedah	Kurung peplum
					
Jenama Rujukan	Wanzar	Era Maya	Maelyn	Amar Amran	Lidya

Sumber: Kajian Lapangan Penyelidik (Julai-Disember 2023)

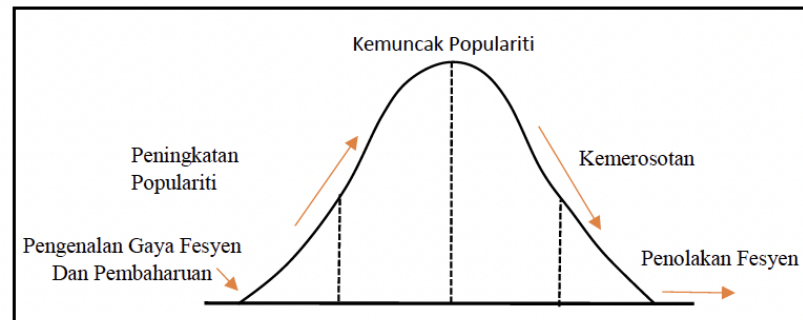
Adaptasi Teori Kitaran Fesyen

“**Fashion Cycle**” atau kitaran fesyen merujuk kepada tempoh masa atau jangka hayat sesuatu fesyen yang wujud dan berkembang melalui lima peringkat utama, iaitu pengenalan, pertumbuhan, kematangan, penurunan, dan akhirnya keusangan. Dalam proses ini, sesuatu gaya dianggap sebagai fesyen apabila ia diterima oleh pelanggan, iaitu apabila mereka mula membeli dan memakai gaya tersebut. Penerimaan ini menjadikan gaya tersebut beralih status daripada sekadar reka bentuk kepada fesyen. Walau bagaimanapun, fesyen lazimnya bersifat tidak kekal dan jarang bertahan dari tahun ke tahun kerana perubahan citarasa, keperluan, serta pengaruh budaya dan sosial.

Dalam konteks baju kurung, berdasarkan analisis terhadap rupa siluet dan reka bentuknya dari tahun 2010 hingga 2023, jelas menunjukkan bahawa pakaian tradisional ini telah melalui perubahan yang selaras dengan kitaran fesyen. Perubahan tersebut mencakupi aspek reka bentuk seperti potongan dan struktur baju kurung, penggunaan motif yang lebih kontemporari, serta penambahan elemen ragam hias yang berfungsi sebagai aksesori untuk meningkatkan nilai estetikanya.

Transformasi ini bukan sahaja mencerminkan adaptasi baju kurung terhadap kehendak moden, tetapi juga menunjukkan bagaimana pakaian tradisional ini kekal relevan dalam memenuhi keperluan gaya hidup serta trend fesyen semasa. Walaupun melalui pelbagai perubahan, baju

kurung tetap mempertahankan identiti asasnya sebagai simbol budaya yang memancarkan nilai tradisional dan kesopanan.



Rajah 1: Graf Kitaran Fesyen oleh Gurleen Arora (2015)

Menurut Gurleen Arora (2015), perubahan dalam fesyen dikenali sebagai *kitaran fesyen* yang merangkumi lima peringkat utama, iaitu pengenalan, peningkatan populariti, kemuncak populariti, penurunan populariti, dan penolakan. Kitaran ini bermula dengan peringkat pengenalan, di mana pereka mentafsirkan hasil penyelidikan dan mencetuskan idea kreatif untuk menghasilkan gaya baharu yang menarik perhatian masyarakat. Pada peringkat ini, fesyen hanya wujud dalam bentuk konsep gaya dan pembaharuan yang berpotensi diterima oleh khalayak.

Peringkat kedua, iaitu peningkatan populariti, berlaku apabila sesuatu gaya mula dibeli, dipakai, dan dilihat secara meluas. Apabila gaya ini mendapat perhatian daripada pembeli, media, serta peminat fesyen, ia berpotensi untuk meraih populariti yang lebih besar. Dalam peringkat ini juga, penyalinan dan penyesuaian gaya oleh jenama lain atau individu turut menyumbang kepada peningkatan penerimaan terhadap fesyen tersebut. Proses ini menggambarkan bagaimana fesyen berkembang secara dinamik melalui interaksi antara kreativiti pereka dan penerimaan masyarakat. Selain itu, ia menekankan peranan penting populariti dalam memastikan kejayaan sesuatu gaya dalam kitaran fesyen. Hasilnya, fesyen bukan sahaja berfungsi sebagai ungkapan estetik, tetapi juga sebagai refleksi terhadap citarasa, keperluan, dan aspirasi budaya semasa.

Peringkat ketiga dalam *kitaran fesyen* dikenali sebagai kemuncak populariti, di mana sesuatu gaya fesyen mencapai tahap penerimaan tertinggi dalam kalangan masyarakat. Pada peringkat ini, permintaan terhadap fesyen tersebut meningkat dengan ketara, mendorong segelintir pengeluar untuk meniru reka bentuk asal atau melakukan pengubahsuaian kecil. Produk hasil tiruan ini kemudiannya dijual pada pelbagai julat harga, menjadikan fesyen tersebut lebih mudah diakses oleh khalayak yang lebih luas.

Peringkat seterusnya ialah kemerosotan populariti, di mana populariti sesuatu gaya mula menurun. Fenomena ini sering berlaku apabila gaya tersebut dihasilkan secara besar-besaran, menyebabkan kejenuhan pasaran. Apabila gaya fesyen menjadi terlalu biasa atau mudah diperolehi, peminat fesyen mula kehilangan minat dan beralih kepada gaya baharu yang lebih segar dan eksklusif.

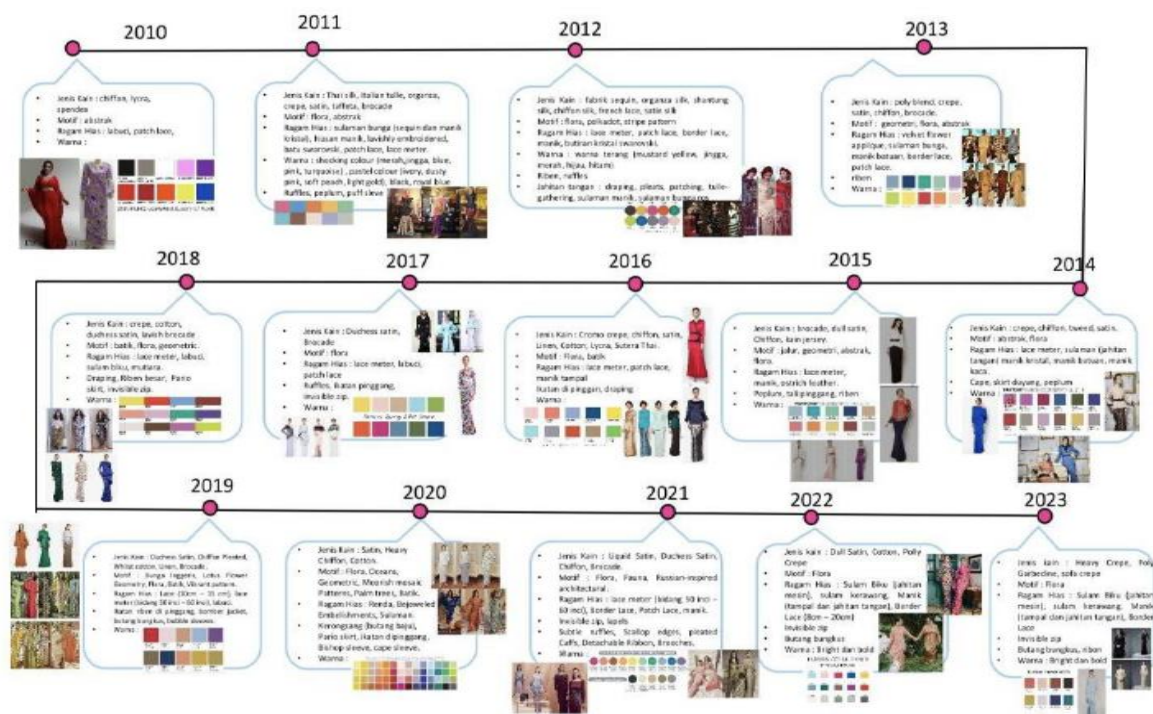
Peringkat terakhir dalam kitaran fesyen ialah penolakan gaya, atau keusangan. Pada tahap ini, gaya yang sebelum ini popular tidak lagi relevan atau diinginkan oleh pengguna. Penolakan ini mendorong peminat fesyen untuk mencari penampilan baharu, sekali gus memulakan kitaran

fesyen yang baharu. Proses ini mencerminkan sifat dinamik dan sementara dalam dunia fesyen, di mana perubahan sentiasa didorong oleh keperluan untuk inovasi dan keunikan.

Metodologi Kajian

Kajian ini menggunakan pendekatan kualitatif yang mengintegrasikan data primer dan data sekunder sebagai sumber utama pengumpulan maklumat. Data primer diperoleh melalui kaedah pemerhatian, kajian lapangan, dan tinjauan eksplorasi, yang membolehkan pengkaji mendapatkan maklumat secara langsung daripada sumber atau situasi yang dikaji. Sementara itu, data sekunder dikumpulkan menerusi analisis teks dan dokumen, kajian perpustakaan, penjelajahan internet, serta analisis visual. Pendekatan ini bukan sahaja menyediakan pelbagai perspektif, tetapi juga memastikan triangulasi data, sekali gus meningkatkan ketepatan dan kebolehpercayaan dapatan kajian. Terdapat dua peringkat yang telah dilakukan oleh penyelidik iaitu, (1) Peringkat Eksplorasi dan (2) Peringkat Analisis;

- (1) Peringkat Eksplorasi dalam kajian ini melibatkan penyelidik yang menjalankan tinjauan terhadap rekaan baju kurung yang dihasilkan oleh kebanyakan pereka fesyen serta pasaran yang sedia ada. Ini dilakukan melalui pelbagai saluran seperti laman web, blog, tinjauan ke pusat membeli-belah dan butik, serta pembacaan artikel dan majalah untuk mendapatkan gambaran yang lengkap mengenai rekaan baju kurung dari tahun 2010 hingga 2023. Pendekatan ini membolehkan penyelidik mengumpul data secara komprehensif dan memahami perkembangan serta trend yang berlaku dalam dunia rekaan baju kurung sepanjang tempoh tersebut.

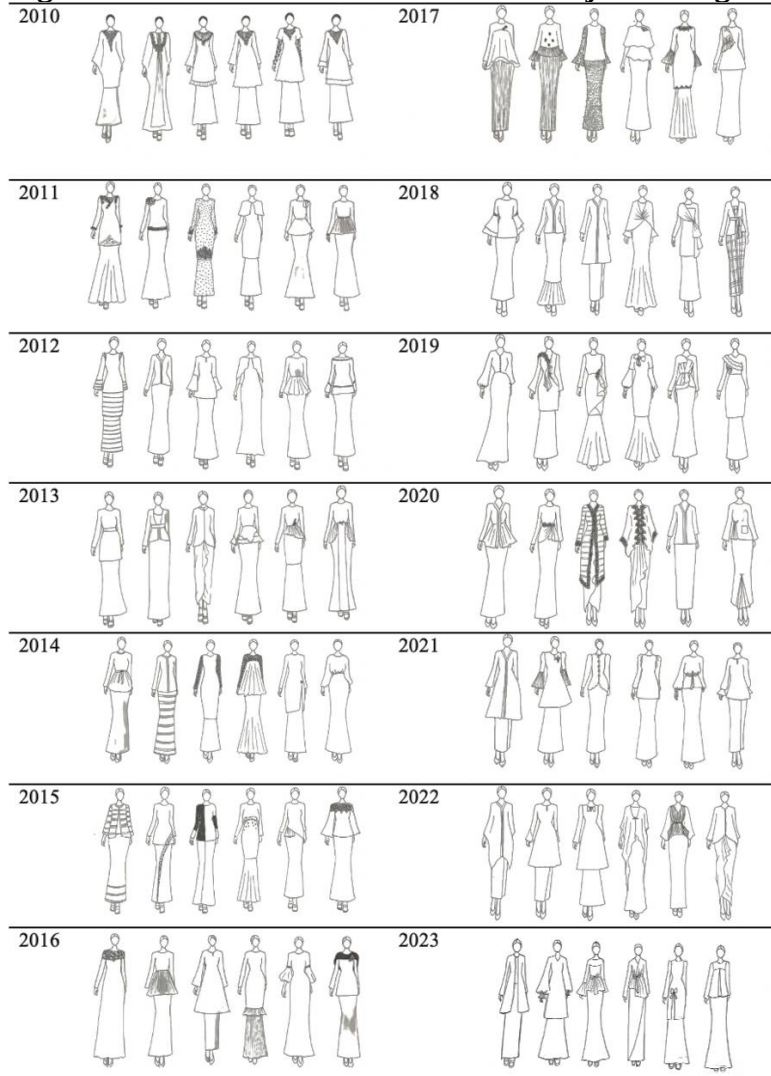


Rajah 2: Peringkat Eksplorasi

- (2) Peringkat Analisis dalam kajian ini bermula selepas data diperolehi, di mana penyelidik mula menganalisis beberapa rekaan yang paling umum ditemui. Penganalisisan ini melibatkan pemeriksaan terhadap bahan yang digunakan, pecahan corak, pelbagai pendekatan yang digunakan, serta bentuk keseluruhan rekaan baju kurung. Di sini,

terdapat lakaran rekaan pelbagai jenis baju kurung dari tahun 2010 hingga 2023 yang disusun untuk memberikan gambaran jelas tentang perkembangan dan perbezaan dalam gaya serta ciri-ciri rekaannya sepanjang tempoh tersebut.

Jadual 2: Peringkat Analisis Perincian Reka Bentuk Baju Kurung Mulai 2010-2023

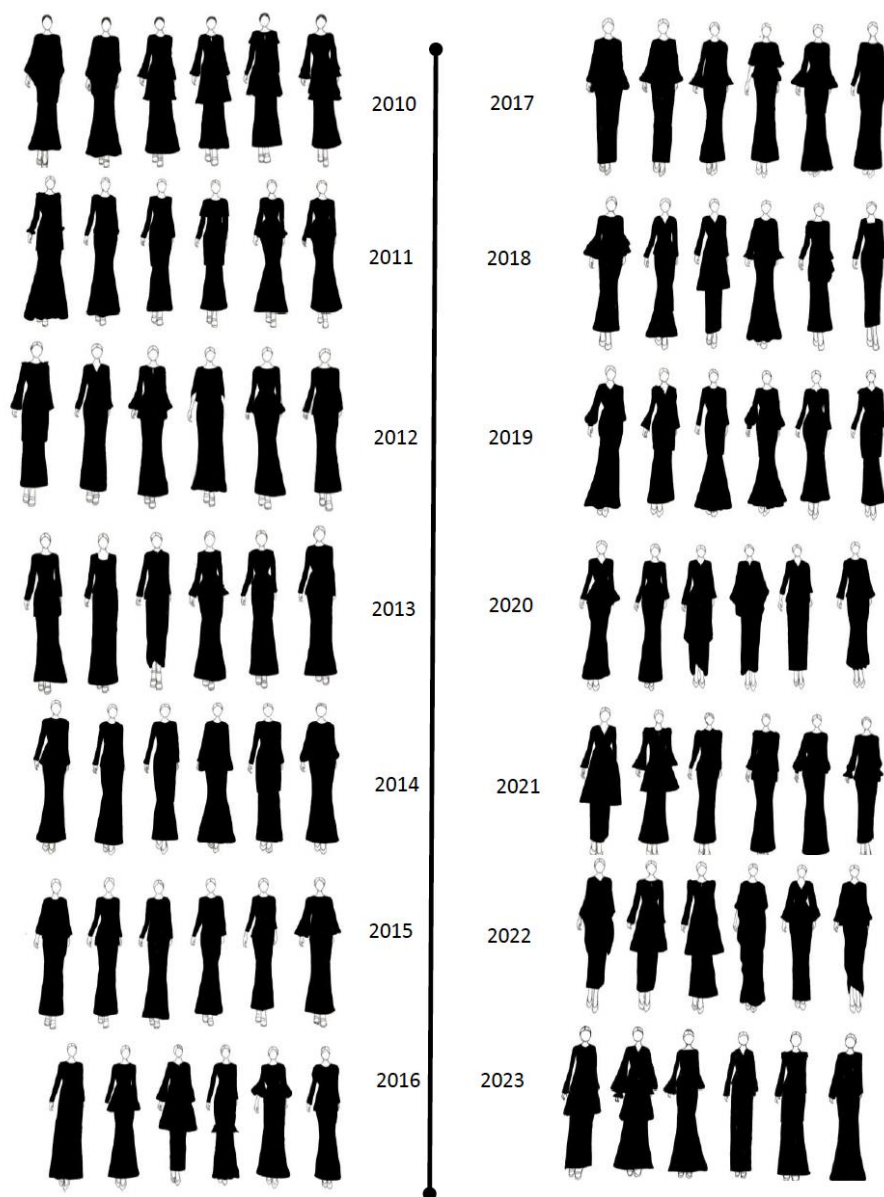


Sumber: Kajian Lapangan Penyelidik

Hasil Kajian dan Perbincangan

Hasil penyelidikan ini telah menghasilkan beberapa siluet bagi baju kurung sejak tahun 2010. Berdasarkan analisis gambar yang disertakan di bawah, dapat dilihat dengan jelas bahawa terdapat kitaran fesyen yang berlaku dalam siluet baju kurung. Perubahan ini mencerminkan bagaimana rekaan baju kurung telah menyesuaikan diri dengan perkembangan trend fesyen dari masa ke masa. Gambar berikut memberikan bukti visual terhadap evolusi siluet baju kurung, menunjukkan perbezaan dalam potongan yang mempengaruhi penampilan baju kurung sepanjang tempoh tersebut.

Jadual 3: Peringkat Analisis Reka Bentuk Siluet Baju Kurung Mulai 2010-2023



Sumber: Kajian Lapangan Penyelidik

Penyelidik telah menjalankan kajian terhadap beberapa siluet rekaan baju kurung pada peringkat pertama di mana penyelidik telah menganalisis perubahan dan variasi siluet baju kurung dari tahun 2010 hingga 2023 melalui pemerhatian terhadap 84 siluet baju kurung. Penyelidik mendapati bahawa kitaran fesyen sentiasa berlaku sepanjang tempoh 14 tahun ini, khususnya dari segi potongan dan kriteria rekaan baju kurung. Berdasarkan tahun 2010 hingga 2023, potongan baju kurung yang paling popular adalah baju kurung Kedah, baju kurung Pahang, dan baju kurung moden.

Kitaran potongan baju kurung Kedah berlangsung selama sembilan tahun (2011, 2012, 2013, 2015, 2017, 2018, 2020, 2022, dan 2023). Kitaran potongan baju kurung Pahang pula bertahan selama lapan tahun (2010, 2011, 2016, 2018, 2020, 2021, 2022, dan 2023). Manakala, potongan baju kurung semasa berlaku dalam tempoh 14 tahun, iaitu dari 2010 hingga 2023.

Oleh itu, potongan seperti *A-Line*, *Empire*, *Mermaid*, *Sheath*, dan *Ball Gown* telah menunjukkan kitaran selama 14 tahun yang mencakupi perubahan dalam gaya dan potongan siluet rekaan baju kurung.

Oleh itu, hasil kajian menunjukkan bahawa terdapat faktor-faktor yang mempengaruhi perubahan siluet baju kurung sepanjang tempoh 14 tahun ini. Dua faktor utama yang dikenal pasti adalah isu sosial dan teknologi. Perubahan dalam siluet baju kurung sangat dipengaruhi oleh faktor sosial, di mana perubahan cara pemakaian baju kurung bergantung kepada aktiviti harian masyarakat. Ini disebabkan oleh kesibukan aktiviti sosial dalam kalangan masyarakat hari ini, di mana pemakaian baju kurung kebanyakannya terhad kepada hari-hari tertentu seperti Hari Raya, majlis perkahwinan, dan majlis rasmi. Kebutuhan untuk memakai baju kurung juga bergantung kepada sama ada majlis tersebut rasmi atau tidak.

Dari sudut pandangan teknologi, perkembangan dunia teknologi yang semakin maju membolehkan pengeluaran baju kurung dalam tempoh yang singkat. Dengan teknologi yang canggih ini, pereka baju kurung sentiasa menghasilkan konsep rekaan yang baharu untuk menarik perhatian pelanggan. Keadaan ini mengakibatkan pengabaian prinsip dalam penghasilan rekaan baju kurung, dan siluet baju kurung akan berubah secara beransur-ansur. Sementara itu, masyarakat cenderung untuk membeli dan memakainya dalam jangka masa yang singkat kerana trend fesyen yang cepat berubah. Rekaan baju kurung yang lama akan digantikan apabila pereka mengeluarkan rekaan baharu. Oleh itu, kemajuan teknologi dalam dunia fesyen memainkan peranan penting dalam mempengaruhi perubahan siluet baju kurung.

Kesimpulan

Kajian ini mendapati bahawa perubahan dan variasi dalam siluet baju kurung dari tahun 2010 hingga 2023 dipengaruhi oleh kitaran fesyen yang berulang dan faktor-faktor utama seperti isu sosial dan teknologi. Tiga potongan baju kurung paling popular sepanjang tempoh kajian ialah baju kurung Kedah, baju kurung Pahang, dan baju kurung moden, masing-masing menunjukkan kitaran yang konsisten dalam tempoh tertentu. Secara keseluruhannya, kajian ini menunjukkan bahawa kitaran fesyen, pengaruh sosial, dan perkembangan teknologi merupakan faktor dominan yang mendorong evolusi siluet baju kurung sepanjang tempoh 14 tahun yang dikaji. Kesimpulannya, baju kurung kekal relevan dan terus mendapat permintaan tinggi kerana kepelbagaian variasi siluet yang ditawarkan di pasaran. Kepelbagaian ini bukan sahaja memenuhi cita rasa fesyen yang berbeza, tetapi juga membantu memartabatkan baju kurung sebagai simbol identiti budaya dan perpaduan dalam masyarakat majmuk di Malaysia. Dengan evolusi reka bentuk yang selaras dengan trend semasa, baju kurung terus menjadi pakaian tradisional yang dihargai dan diwarisi merentasi generasi.

Penghargaan

Penulis ingin merakamkan setinggi-tinggi penghargaan kepada semua pihak yang telah menyumbang secara langsung atau tidak langsung kepada kejayaan kajian ini. Penulis juga mengisytiharkan bahawa tiada sebarang konflik kepentingan dalam penerbitan artikel ini.

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FAKTOR PENGLIBATAN REMAJA DALAM JENAYAH JUVANA: KAJIAN DI ASRAMA AKHLAK RUSILA MARANG TERENGGANU

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Abstrak: Jenayah juvana sering dilaporkan seolah-oleh tidak ada pengakhiran dan faktor berlakunya kejadian ini perlu dikaji. Antara kesalahan jenayah yang sering berlaku dalam kalangan remaja adalah penyalahgunaan dadah, mencuri, seks bebas, jenayah kekerasan, dan merosakkan harta benda. Kajian ini bertujuan untuk mengenalpasti faktor-faktor yang menyebabkan remaja terlibat dengan juvana. Metodologi yang digunakan dalam kajian ini adalah kaedah kualitatif dan alat kajian menggunakan temubual separa berstruktur. Populasi untuk kajian adalah seramai 38 orang remaja. Sampel kajian terbahagi kepada dua kumpulan iaitu dua orang pegawai asrama dan 12 orang pesalah juvana dipilih mengikut perbezaan latar belakang sosioekonomi keluarga mereka yang terdiri daripada keluarga berpendapatan rendah, sederhana dan tinggi mengikut ukuran rasmi kerajaan. Hasil kajian dianalisis dengan menggunakan pendekatan induktif. Hasil kajian mendapati faktor salah laku remaja di Asrama Akhlak Rusila Marang, Terengganu adalah disebabkan perasaan ingin mencuba, diikuti pengaruh rakan, dan masalah sosioekonomi keluarga yang rendah. Kajian juga mendapati kesalahan utama yang dilakukan adalah penyalahgunaan dadah dan mencuri. Kesimpulannya, ketika remaja sedang meningkat dewasa, pergaulan dan aktiviti mereka perlu dipantau oleh ibu bapa, guru-guru dan ahli keluarga terdekat untuk memastikan mereka bergaul dalam kalangan rakan-rakan yang berakhlak serta tidak melakukan aktiviti tidak sihat sehingga boleh terjebak dengan kesalahan jenayah. Implikasi kajian ini dapat dilihat daripada agensi-agensi terlibat yang mengatur dan menyusun aktiviti-aktiviti bermoral untuk memotivasikan pesalah juvana di Asrama Akhlak Rusila Marang, Terengganu khasnya.

Keywords: Remaja, Juvana, Asrama Akhlak Rusila, Marang, Terengganu

Pengenalan

Daripada Wikipedia, ensiklopedia bebas, remaja pada umumnya merujuk kepada golongan individu yang berumur antara 12 hingga 21 tahun atau berumur 13 hingga 25 tahun. Perkataan 'remaja' berasal daripada perkataan Latin bermakna proses ke arah kematangan. Golongan ini sentiasa mempunyai perasaan ingin mencuba dan sedang menuju ke tahap untuk menjadi dewasa. Dari sudut perkembangan manusia, remaja merujuk kepada satu peringkat perkembangan manusia, iaitu peringkat transisi antara peringkat kanak-kanak dan peringkat dewasa. Semasa seseorang mengalami zaman remaja, mereka akan mengalami pelbagai perubahan drastik, termasuk perubahan jasmani, sosial, emosi, dan bahasa. Akibatnya, remaja mengalami emosi yang tidak stabil dan sentiasa "bermasalah". Golongan remaja merupakan kelompok penting ke arah pembangunan negara pada masa hadapan. Mereka merupakan pelapis dan pemimpin untuk mencerna keberdayaan masyarakat bagi mewujudkan Malaysia sebagai sebuah negara maju, moden, harmoni, toleransi, berintegriti, dan mempunyai kewibawaan tamadun bangsa yang komprehensif.

Jenayah Juvana merujuk kepada perlakuan jenayah yang dikaitkan dengan penglibatan remaja dalam pelbagai masalah sosial dan membimbangkan semua pihak. Ia merupakan satu daripada isu sosial yang penting kerana golongan ini mampu melakukan jenayah berat. Walau bagaimanapun mereka masih belum boleh dipertanggungjawabkan sepenuhnya disebabkan oleh faktor usia, sepertimana di bawah Seksyen 2 Akta Kanak-Kanak 2001 (Akta 611) ditafsirkan sebagai seseorang di bawah umur 18 tahun. Sehubungan itu, Akta Kanak-Kanak terpakai kepada semua kanak-kanak yang berumur di bawah lapan belas tahun selaras dengan Seksyen 2 Akta Umur Dewasa 1971 (Akta 21) yang menetapkan umur dewasa sebagai 18 tahun. Akta Kanak-Kanak 2001 (Akta 611) telah memansuhkan Akta Mahkamah Juvana 1947 (Akta 90) keseluruhannya. Hari ini sering kita dengar pelbagai kes jenayah yang melibatkan pelajar sekolah dan remaja semakin berleluasa. Jenayah yang dilakukan terlalu agresif dan menakutkan. Jenayah peras ugut dilakukan oleh mereka yang hidup dalam dunia khayalan sendiri. Vandalisme merupakan salah satu jenayah yang sering mereka lakukan seperti merosakkan harta benda dan kemudahan awam serta mencuri. Di Malaysia golongan juvana seawal 10 tahun telah direkrut oleh sindiket sebagai pengedar kecil-kecilan di sekolah (Utusan Malaysia, 29 Mac 2014). Selain pengedaran dan penagihan dadah, masalah penzinaan, pembuangan bayi, khalwat dan rogol juga turut membelenggu kehidupan masyarakat kini (Sudi et al. 2021; Wazir et al. 2020). Jenayah juvana masih kekal menjadi penyumbang kepada peningkatan indeks jenayah di Malaysia yang mana jika tidak dibendung boleh memberi kesan kepada pembangunan sosial, modal insan dan kesejahteraan negara. Artikel ini mendedahkan kajian mengenai faktor-faktor penglibatan 12 orang remaja di bawah umur dalam melakukan jenayah juvana.

Sorotan Kajian

Perbincangan berkenaan masalah sosial mendapati terdapat beberapa faktor yang mendorong berlakunya salah laku akhlak dalam kalangan remaja iaitu faktor kerohanian, diri sendiri, rakan, sikap ingin mencuba, kurang didikan agama dan ketahanan diri yang lemah (Wazir et al. 2020). Menurut Azizan et al. (2022), faktor persekitaran sosial boleh mempengaruhi atau menjadi sumber pembelajaran kepada proses pembentukan tingkah laku seseorang melalui pelbagai corak pembelajaran sosial seperti permodelan, maklum balas, dorongan dan halangan. Faktor persekitaran sosial yang dimaksudkan termasuk elemen-elemen kemanusiaan, seperti pengaruh ibu bapa, pengaruh guru-guru, pengaruh rakan sebaya dan pengaruh masyarakat, atau elemen-elemen bukan kemanusiaan seperti pengaruh pelbagai jenis media yang diterima oleh seseorang semasa menjalani proses kehidupan mereka (Abd Majid et al. 2021; Mustafa et al. 2021). Pembabit remaja dalam jenayah tidak diketahui dengan jelas dan tidak berpunca daripada satu faktor sahaja. Walau bagaimanapun, terdapat beberapa faktor yang disifatkan boleh menjurus remaja melakukan tingkah laku jenayah. Dalam proses pembentukan peribadi dan personaliti remaja terdapat empat pengaruh yang memberi kesan dalam pembentukan sendiri iaitu pengaruh ibu bapa, rakan sebaya, teman istimewa dan guru. Kajian mendapati kebanyakan kes jenayah wujud akibat si pelakunya datang daripada keluarga yang menghadapi konflik atau keluarga yang bermasalah atau porak-peranda kerana mereka kurang mendapat kepentingan pembinaan sosial oleh kedua-dua ibu bapa. Faktor ibu bapa adalah lebih kepada cara didikan dan asuhan di rumah yang mempunyai perkaitan rapat dengan masalah salah laku yang timbul (Nik Nordin & Selamat, 2018).

Abd. Majid et al. (2019) menyatakan bahawa perceraian ibu bapa serta kesibukan dalam memenuhi tuntutan kehidupan merupakan faktor remaja terlibat dengan masalah seksual. Hal ini kerana ibu bapa bukan sahaja menjadi penyumbang pembinaan sosial tetapi juga “role-

model” yang menyalurkan nilai-nilai murni dan positif kepada remaja. Kepimpinan melalui teladan merupakan contoh terbaik yang ditunjukkan oleh ibu bapa akan melekat di minda anak-anak remaja dan akan sehati dengan diri mereka. Sebaliknya, perkembangan remaja akan melalui pelbagai masalah sekiranya remaja tidak mendapat kasih sayang dan didikan yang sempurna daripada kedua-dua ibu bapa. Mengikut ujian tingkah laku, anak-anak yang diberi didikan, perhatian dan kasih sayang yang cukup akan membesar dengan penuh yakin dan lebih mudah dibentuk berbanding anak-anak yang kurang diberi perhatian, mereka mudah memberontak dengan melakukan perkara yang ditegah walaupun berulang kali ditegur. Ini membuktikan bahawa masalah sosial yang berlaku dalam kalangan remaja masa kini amat berkait rapat dengan institusi keluarga yang tidak harmoni dan seimbang (Othman et al. 2018). Remaja yang terbiar tanpa interaksi sosial yang positif dan bimbingan akan menghadapi kekeliruan dalam menentukan hala tuju. Apatah lagi dalam usia yang sebegitu muda, sudah pasti remaja ini akan mencari hala tujunya sendiri dan akan mudah tertarik melakukan sesuatu yang membawa keseronokan dan kelekatan sehingga lebih cenderung menghabiskan masa di luar rumah bersama rakan-rakan. Faktor kepincangan keluarga dan taraf sosio-ekonomi sesebuah keluarga akan mencorak kehidupan seorang kanak-kanak. Kegagalan ibu bapa untuk membetulkan kepincangan anak-anak akan menyebabkan anak-anak tidak lagi menghormati mereka. Menurut James Becker, ketidakseimbangan disiplin sesebuah keluarga akan menyebabkan anak-anak tidak dapat mewujudkan pengawalan diri yang sempurna dan ini akan menjejaskan ketahanan diri remaja.

Konsep ketegangan dalam (*general strain theory*) GST merujuk kepada hubungan negatif antara remaja dan sistem sosialnya. Misalnya hubungan negatif antara remaja dan ibu bapa. Nasir (2023) berpendapat remaja yang menerima layanan yang buruk akan berasa kecewa seterusnya memberi respon negatif melalui sikap agresif, jenayah dan tingkah laku devian. Menurut Price et al. (2023), ketegangan boleh menimbulkan emosi negatif seperti marah, kecewa, murung dan tertekan. Emosi negatif pula mendorong seseorang menggunakan strategi daya tindak seperti terlibat dengan jenayah atau perlakuan ‘*escapisme*’. Ketegangan terbahagi kepada dua iaitu ketegangan yang bersifat objektif dan ketegangan bersifat subjektif (Balconi, Fronda, & Crivelli, 2019). Ketegangan objektif merujuk kepada situasi yang tidak disenangi oleh individu atau kumpulan seperti penderaan, kegagalan dan kemiskinan. Ketegangan subjektif bermaksud respons, penilaian, persepsi, perasaan atau sikap individu terhadap situasi tersebut. Setiap individu memberi respons dan penilaian yang berbeza terhadap sesuatu peristiwa. Misalnya, individu A mungkin menganggap kemiskinan yang dihadapi sebagai positif dan perlu bekerja keras untuk keluar daripada kepompong kemiskinan. Manakala individu B mungkin memberi respons negatif kepada kemiskinan sebagai tiada harapan lagi untuk keluar daripada masalah tersebut. Individu mungkin menggunakan cara yang tidak sah untuk memperoleh kekayaan atau mengambil dadah bagi melupakan masalah yang dihadapi. Perbezaan respons antara individu A dan individu B bergantung kepada personaliti diri, sumber-sumber personal, strategi daya tindak, ikatan sosial dengan orang sekeliling serta ciri-ciri ketegangan. Individu yang mengalami ketegangan hasil daripada ketidakadilan sosial mempunyai kecenderungan yang tinggi untuk terlibat dengan jenayah.

Menurut Rapee et al. (2019), penglibatan remaja dalam pelbagai gejala sosial berpunca daripada pelbagai faktor. Antaranya faktor dalaman diri remaja itu sendiri iaitu perkembangan personaliti, kegagalan institusi keluarga dan juga pengaruh rakan sebaya. Zainal & Sharani (2004) menyatakan pengaruh persekitaran sekolah menjadi punca keruntuhan akhlak dalam kalangan remaja. Peranan ibu bapa penting dalam mendidik anak-anak. Kajian oleh Nabilah Norzli (2019) menunjukkan bahawa remaja yang terpengaruh dengan masalah sosial dan tidak berdisiplin mempunyai penghargaan sendiri yang rendah. Ini kerana remaja yang terlibat

dalam masalah sosial tidak mempunyai perhubungan sosial yang kuat dan sering rasa terpencil dan rendah diri. Terdapat dalam kalangan ibu bapa tidak mengambil berat tentang pendidikan agama. Dalam kajian Othman, Sarnon, dan Zakaria (2019) telah membuktikan penglibatan remaja dalam masalah sosial adalah disebabkan kurangnya amalan kerohanian seperti menunaikan solat. Bakar, Yakub, Yusoff, dan Norasid (2019) menyatakan kemantapan agama berlaku agak lewat dalam diri remaja iaitu antara umur 23 dan 24 tahun telah menyebabkan remaja mudah terlibat dengan juvana. Selain itu, terdapat faktor internal yang menyebabkan masalah sosial dalam kalangan remaja iaitu status sosio demografi dan ekonomi iaitu tahap pendidikan, bilangan adik beradik dan pendapatan ibu bapa (Mohd Nasir & Mohd Ali Hanafiah, 2015).

Absha Atiah (2019) menyatakan bahawa faktor remaja terlibat dengan masalah sosial ialah faktor diri sendiri (Buerah et al. 2015; Othman et al. 2018). Selain itu, ibu bapa, media massa dan rakan sebaya juga merupakan salah satu punca terjadinya masalah sosial dalam kalangan remaja. Berdasarkan kajian yang dijalankan oleh Kamaluddin et al. (2021) terdapat empat faktor utama yang menyumbang kepada gejala penagihan dadah antaranya pengaruh rakan sebaya, persekitaran keluarga dan tempat tinggal, tekanan yang dialami remaja dan kurang pengetahuan serta didikan agama. Faktor-faktor yang disebutkan ini perlu diberikan perhatian agar para remaja tidak mudah terpedaya dengan apa yang mereka hadapi dalam menjalani kehidupan seharian. Penglibatan remaja dalam penzinaan juga membimbangkan, hasil kajian mendapati bahawa terdapat beberapa faktor yang mendorong remaja melakukan penzinaan iaitu pengaruh rakan sebaya, pengaruh media massa, kejutan budaya, sistem pendidikan dan persekolahan, kurang pendidikan ibu bapa, kurang penghayatan agama dan pergaulan bebas (Ab Razak & Hamjah, 2016). Guru turut menjadi menyumbang faktor tertinggi apabila pelajar merasa bimbang kerana tidak menyiapkan tugas yang diberikan dan kelemahan komunikasi antara guru dan pelajar menyebabkan pelajar tertekan sehingga menyebabkan mereka terjebak dengan juvana (Nik Nordin & Selamat, 2018). Manakala kajian yang dilakukan oleh Abd. Majid et al. (2019) menunjukkan percintaan dalam kalangan remaja dan filem porno kesan kepesatan teknologi komunikasi memudahkan perhubungan antara lelaki dan perempuan yang tidak terkawal turut menyumbang salah laku akhlak remaja pada masa ini.

Abd Majid et al. (2021) menyatakan bahawa ibu bapa atau keluarga adalah faktor yang memiliki kekerapan yang tinggi iaitu 24%, diikuti dengan faktor rakan sebaya iaitu 19%. Manakala faktor diri adalah 15%, guru atau sekolah, media massa dan persekitaran menyumbang peratusan yang sama iaitu sebanyak 14%. Kepesatan perkembangan teknologi juga antara faktor penyumbang kepada salah laku akhlak (Nurzatil et al. 2022). Remaja perlu kepada dorongan agar dapat membezakan perkara yang baik dan buruk dalam menggunakan teknologi. Tanpa kawalan yang rapi, remaja tidak mampu mengawal diri daripada terlibat dengan unsur-unsur yang negatif. Berdasarkan kajian Nurzatil et al. 2022, mendapati segelintir remaja yang terjebak dengan salah laku delinkuen kerana mereka menginginkan kehidupan dan kemewahan seperti rakan-rakan yang berada di sekeliling mereka walhal mereka tidak mampu. Akhirnya, mereka didorong untuk melakukan pekerjaan atau perkhidmatan yang menyalahi syariat Islam seperti 'sugarbaby'. Hasil daripada perkhidmatan tersebut mereka memperolehi pendapatan yang lumayan. Perkara ini berlaku disebabkan oleh golongan anak-anak remaja ini terdedah kepada elemen negatif yang mudah mendominasi pemikiran dan tingkah laku seharian. Keadaan ini menjadi lebih kritikal disebabkan peringkat umur remaja adalah fasa bagi mereka melakukan eksplorasi terhadap pelbagai alternatif, cenderung mempunyai rasa ingin tahu yang tinggi dan selalu ingin mencuba perkara-perkara yang baru (Abd Majid et al. 2021). Rakan sebaya merupakan individu yang dekat dengan remaja, malah sebahagian remaja lebih mesra dengan rakan sebaya berbanding ibu bapa atau keluarga. Pemilihan rakan yang tepat amat

penting agar remaja tidak terpengaruh dengan akhlak buruk rakan sebaya. Pengaruh yang kuat menjadikan remaja terdorong melakukan pelbagai salah laku akhlak sama ada seksual, mencuri dan lain-lain (Nurzatil et al. 2022). Kajian Shahrudin et al. (2018) mendapati pengaruh rakan sebaya mempunyai hubungan signifikan dengan sikap terhadap tingkah laku seksual. Pengambilan dadah dalam kalangan mereka merupakan sesuatu yang luar biasa dan pastinya terdapat faktor yang mempengaruhi masalah ini.

Kebanyakan remaja terlibat adalah dalam lingkungan usia yang masih belasan tahun iaitu seawal 13 hingga 15 tahun. Usia yang sepatutnya remaja berada di sekolah serta sibuk dengan aktiviti sekolah dan di rumah bersama ahli keluarga. Namun, keterlibatan golongan remaja ini dengan dadah dapat dikesan dengan menyumbang kepada beberapa kes. Oleh kerana itu, agak mustahil sekiranya remaja dapat memperoleh jenis-jenis dadah sekiranya tidak melalui akses yang terdekat dengan mereka. Perkara ini terjadi disebabkan oleh terjebak dengan ahli keluarga sendiri, sahabat atau jiran tetangga. Berdasarkan hasil dapatan temu bual Nurzatil et al. (2022), remaja memperoleh dadah daripada salah satu ahli keluarga iaitu abang kandung sendiri dan ada juga yang mendapatkan daripada ayahnya sendiri. Sehubungan dengan itu, keluarga yang terlibat dengan aktiviti dadah mempunyai risiko tinggi untuk anak-anak remaja juga turut terlibat dengan dadah. Ini kerana keluarga yang tidak membentuk, mendidik, memberi dorongan kepada kebaikan akan membentuk remaja yang bermasalah. Keluarga yang terlibat dengan masalah dadah sebagai contoh, mempunyai kebarangkalian yang besar dicontohi oleh anak-anak terutama remaja. Remaja yang mempunyai keluarga terlibat dengan dadah amat berisiko pengambilan dadah. Ia dibuktikan oleh kajian Norhayati (2018) bahawa responden yang pernah terlibat dengan pengambilan dadah menilai risiko yang tinggi pada diri mereka apabila terdapat ahli keluarga terdekat yang mengambil dadah berbanding mereka yang tidak pernah mengambil dadah.

Kaedah Kajian

Kajian ini merupakan kajian kualitatif menggunakan pendekatan semulajadi atau natural approach untuk memahami suatu fenomena dalam konteks yang khusus. Kajian lapangan adalah strategi penyelidikan yang sesuai untuk meneroka bidang kajian bagi mengetahui secara mendalam keadaan sebenar kumpulan atau kejadian tertentu. Kajian ini menggabungkan dua ciri utama kajian yang bersifat penerokaan dan penjelasan. Ianya bersifat demikian atas dua penelitian. Pertama, kajian yang dijalankan merupakan perspektif penelitian terbaru di dalam komuniti setempat iaitu Marang, Terengganu. Di mana ciri ini meneroka faktor-faktor terbaru yang menjadi punca penglibatan remaja dalam kes juvana. Dengan demikian, kajian ini bersifat penerokaan (Creswell, 2017). Kedua, kajian ini bermatlamat untuk menyampaikan gambaran semasa tentang realiti penglibatan jenayah juvana dalam kalangan remaja (Eriksson & Kovalainen, 2015). Seterusnya kajian ini akan menerangkan tentang tahap hubung kait yang terdapat di antara faktor-faktor atau pemboleh ubah yang diukur (Creswell, 2017). Oleh itu ia mengandungi ciri-ciri penjelasan untuk kajian ini (Taylor et al. 2015). Seterusnya, kajian ini dijalankan secara teoritikal menerusi kajian fenomena dan tinjauan yang berbentuk kualitatif dengan menggunakan kajian fenomenologi. Kajian dijalankan ke atas remaja di Terengganu yang mempunyai kesalahan jenayah juvana dan ditempatkan di Asrama Akhlak Rusila, Marang, Terengganu yang merupakan institusi pemulihan kepada kanak-kanak yang terlibat dengan jenayah dan tidak terkawal melalui seksyen 61 Akta Kanak-kanak 2001. Dengan itu, ia dapat memberi data primer yang dikehendaki.

Persampelan dalam kajian ini mencakupi dua kategori, iaitu kumpulan remaja yang menghuni di Asrama Akhlak Rusila, Marang, Terengganu dan pegawai akhlak yang terlibat

secara terus dan berkhidmat di sini. Kedua-dua kategori ditemubual secara bersemuka bagi mendapat maklumat tentang kajian. Jumlah populasi adalah seramai 38 orang bagi remaja dan tiga orang pegawai, tetapi hanya seramai 14 orang informan yang dipilih menggunakan kaedah persampelan bertujuan, iaitu 12 orang remaja dan dua orang pegawai akhlak. Sebelum menjalankan temu bual terhadap informan, pengkaji terlebih dahulu telah mendapatkan kebenaran dan kelulusan daripada pihak Jabatan Kebajikan Masyarakat (JKM). Temu bual secara bersemuka tidak berstruktur dijadikan sebagai instrumen kajian dan dikendalikan sendiri oleh pengkaji. Terdapat 18 soalan temu bual berbentuk terbuka disoal kepada informan kumpulan remaja dan tiga soalan teras tentang informan disoal kepada informan kumpulan pegawai akhlak dan masa yang diambil untuk sesi temu bual adalah selama 30 hingga 40 minit. Semasa sesi temu bual, pengkaji merakam suara melalui alat perakam suara bagi merekod segala perbualan antara pengkaji dan informan. Selain itu, pengkaji juga menyalin maklumat-maklumat penting pada nota yang tidak dapat dizahirkan melalui suara. Kaedah ini dapat menjelaskan maksud yang mendalam terhadap maklumat yang diberikan. Kaedah analisis perbandingan secara berterusan digunakan untuk menganalisis data kajian berbentuk kualitatif. Dapatan kajian akan membongkarkan dan menyingkap trend faktor-faktor penglibatan remaja dalam juvana.

Hasil Kajian

Berikut adalah hasil kajian punca-punca penglibatan remaja dalam kes juvana yang melibatkan faktor demografi.

Jadual 1: Demografi Informan

Informan	Umur	Bil. Adik - beradik	Pekerjaan Bapa	Pekerjaan Ibu	Taraf Pendidikan
1	17	4	Guru	Pembantu Tadbir	PMR
2	17	5	Pembantu Rendah	Am Pembantu Khidmat Pelanggan	PMR
3	17	7	Pencen Askar	Berniaga	UPSR
4	17	4	Tiada Kerja Tetap	Operator Kilang	UPSR
5	17	12	Tidak Bekerja	Pembantu Gerai Makanan	PMR
6	14	4	Penghantar Khabar	Surat Meninggal Dunia	UPSR
7	16	8	Mekanik Motor	Pembantu Pam Minyak	Am UPSR
8	17	8	Buruh Binaan	Meninggal Dunia	UPSR
9	16	3	Pengawal Keselamatan Kilang	Tidak Bekerja	UPSR
10	14	3	Tiada Maklumat	Tidak Bekerja	UPSR
11	17	10	Buruh Binaan	Tidak Bekerja	Tiada
12	17	5	Pengutip Barang Terbuang	Tidak Bekerja	UPSR

Merujuk kepada Jadual 1, majoriti umur informan dalam kajian ini adalah 17 tahun iaitu seramai lapan orang. Hanya dua orang informan berumur 14 tahun dan dua orang informan berumur 16 tahun. Melalui dapatan ini jelas menunjukkan remaja berumur 17 tahun merupakan puncak kelakuan jenayah terjadi dalam kalangan remaja. Faktor jumlah ahli keluarga menjadi faktor penglibatan remaja dalam kes juvana. Secara keseluruhan, informan yang terlibat dalam

juvana datang daripada kelompok keluarga yang besar dan majoriti jumlah ahli keluarga adalah 5 hingga 12 orang iaitu seramai 8 orang responden manakala baki seramai 4 responden lagi adalah terdiri daripada 3 dan 4 ahli keluarga. Kesan daripada ahli keluarga yang ramai adalah ibu bapa tidak dapat memberikan perhatian penuh kepada informan sehingga menyebabkan informan keluar mencari keseronokan bersama rakan-rakan di luar sehingga menyebabkan mereka terjebak dengan jenayah juvana. Selain daripada informan tidak mendapat perhatian daripada ibu bapa, dengan jumlah ahli keluarga yang ramai telah menyebabkan taraf ekonomi keluarga informan berada pada tahap rendah dan tidak mampu untuk menyediakan keperluan dan kelengkapan asas dengan sempurna termasuklah informan tidak dapat meneruskan persekolahan. Hal ini dapat dibuktikan dalam Jadual 1 yang mana seramai 8 orang informan hanya bersekolah pada tahap sekolah rendah (UPSR), 3 orang responden bersekolah pada tahap menengah rendah (PMR) dan seorang informan tidak bersekolah. Daripada hasil kajian juga, informan yang terlibat dengan jenayah juvana adalah mereka yang tercicir dalam pelajaran dan tidak meneruskan pengajian mereka ke peringkat seterusnya. Mereka tidak berminat untuk ke sekolah kerana mereka tidak mendapat galakan dan dorongan daripada ibu bapa. Jika dilihat dari sudut pekerjaan ibu bapa, hampir kesemua ibu bapa informan bekerja dalam bidang bukan profesional. Hanya seorang sahaja bapa informan yang mempunyai profesion profesional iaitu sebagai guru. Dengan ini dapat dilihat bahawa ibu bapa informan tidak mempunyai tahap kelayakan pendidikan tinggi. Umum mengetahui tahap pendidikan ibu bapa memainkan peranan utama dalam mendidik anak. Seterusnya, pekerjaan ibu bapa menunjukkan peranan penting dalam pembentukan kehidupan yang lebih baik kepada informan. Daripada dapatan kajian ini boleh dikenal pasti 6 daripada 8 bapa informan tidak mempunyai pekerjaan tetap. Manakala ibu informan pula, 3 orang tidak mempunyai pekerjaan tetap dan dua telah meninggal dunia. Maka, rumusan yang dapat dibuat terhadap keluarga informan adalah mereka terpaksa bekerja keras demi kelangsungan hidup. Hal ini telah menyebabkan perhatian dalam mendidik informan tidak dapat dilaksanakan dengan baik dan sewajarnya.

Jadual 2: Jenis Kesalahan dan Punca Penglibatan

Informan	Jenis Kesalahan	Punca Penglibatan
1	Mencuri penutup longkang	Diri sendiri
2	Mengedar dadah	Pengaruh rakan
3	Mencuri motorsikal	Pengaruh rakan dan tekanan perasaan daripada ahli keluarga
4	Mengedar dan menagih dadah	Pengaruh rakan
5	Menagih dadah	Pengaruh rakan
6	Mencuri telefon bimbit	Diri sendiri
7	Mencuri wayar elektrik	Diri sendiri
8	Mencuri motosikal	Diri sendiri dan pengaruh rakan
9	Menagih dadah	Pengaruh rakan secara paksa
10	Mencuri motorsikal	Pengaruh abang (keluarga)
11	Memiliki dadah	Pengaruh rakan dan diri sendiri
12	Menagih dadah	Diri sendiri dan pengaruh rakan

Jadual 2 merupakan hasil temu bual pengkaji dengan informan berkenaan jenis kesalahan yang dilakukan dan punca penglibatan mereka dalam kesalahan tersebut. Komposisi terbesar jenis jenayah yang dilakukan dalam kumpulan informan ini adalah kesalahan mencuri seramai 6 orang informan. Kesalahan mencuri terbahagi kepada mencuri motosikal paling ramai iaitu seramai 3 orang, mencuri penutup longkang seorang, mencuri telefon bimbit seorang, dan mencuri wayar elektrik seorang. Selebihnya, 4 orang informan menagih dadah dan 2 mengedar dadah. 8 daripada 12 orang informan telah menyatakan punca mereka melakukan kesalahan

tersebut adalah disebabkan pengaruh daripada rakan. Faktor diri sendiri juga memberi kesan terhadap kecenderungan informan melakukan kesalahan juvana. Seramai 6 orang informan menyatakan diri sendiri iaitu perasaan ingin mencuba sebagai punca penglibatan mereka dalam jenayah juvana. Selain daripada faktor pengaruh rakan dan diri sendiri, faktor keluarga juga menjadi penyebab kepada remaja terjebak dengan kesalahan jenayah seperti informan ke-10 telah dipaksa dan diugut oleh abangnya untuk mencuri motosikal. Sekiranya tidak berbuat demikian, informan ke-10 akan dipukul. Selain itu, informan ke-3 terjebak dengan kesalahan juvana kerana mengalami tekanan perasaan daripada ahli keluarga iaitu ayahnya sering membebel dan marah-marah. Keadan ini telah menyebabkan informan ketiga tidak seronok untuk tinggal di rumah dan menghabiskan masa di luar rumah sehingga terpengaruh dengan ajakan kawan yang pada mulanya hanya suka-suka mencuri motosikal untuk mendapatkan sumber pendapatan sehingga menyebabkan dirinya ditangkap oleh pihak polis.

Jadual 3: Ulasan Daripada Pegawai Asrama Akhlak Rusila, Marang

Informan	Ulasan
1	Informan adalah seorang kanak-kanak yang masih memerlukan bimbingan dan tunjuk ajar serta perhatian lebih daripada kedua ibu bapanya. Informan mempunyai akhlak kasar dan susah menerima nasihat, serta selalu bercakap kasar dengan ibu bapanya disebabkan oleh pengaruh pil kuda. Informan bebas berkawan dengan kawan yang selalu membawanya ke arah perbuatan yang buruk terutamanya terlibat dengan dadah. Ibu bapa informan risau dan ingin melakukan sesuatu yang boleh memisahkan informan dengan rakan-rakan yang selalu mempengaruhinya kerana informan terlibat dengan dadah kerana adanya rakan-rakan bersamanya.
2	Informan menyatakan telah insaf serta berazam tidak mengulangi kesilapannya. Pengalaman informan berada dalam tahanan polis untuk beberapa hari telah banyak memberi kesedaran dan keinsafan buat dirinya. Dalam hal ini informan belum matang dan mudah terpengaruh dengan tingkah laku dan ajakan rakan-rakan. Jiwa remajanya telah mendorong keinginan untuk melakukan sesuatu perkara yang boleh memudaratkan diri sendiri tanpa berfikir panjang dan mengikut hawa nafsu. Informan benar-benar insaf dan merayu agar diberi peluang memperbaiki diri dan berhasrat untuk bekerja bagi membantu keluarga.
3	Informan bersikap semakin menjauhkan diri daripada ahli keluarga dan inginkan kebebasan sepenuhnya tanpa kawalan daripada ibu bapanya. Informan tidak bersekolah dan tidak mempunyai sebarang kemahiran khusus. Informan perlu diberi pembelajaran yang berterusan demi masa depannya yang masih panjang. Demi kebajikan dan masa depan informan, disyorkan informan menjalani Perintah Percubaan selama 2 tahun sebagaimana peruntukan di bawah Seksyen 91 (1) (e) Akta Kanak-kanak 2001. Informan menjalani pemulihan di Asrama Akhlak Rusila Marang selama 1 tahun sebagaimana peruntukan di bawah Seksyen 98 Akta Kanak-kanak 2001 dan baki 1 tahun di bawah seliaan Pegawai Akhlak Kota Bharu. Informan telah ditempatkan sementara di lokap IPD Pengkalan Chepa, Kota Bharu sebelum dihantar oleh Pegawai JKM ke Asrama Akhlak.
4	Masalah keciciran daripada persekolahan dan kurang pemantauan daripada ahli keluarga menjadi punca utama permasalahan yang dihadapi informan. Hal ini kerana pada usia begini informan cenderung untuk mencari kebebasan dalam hidup dan akan bertindak di luar pemikiran yang matang. Pengaruh persekitaran dan rakan-rakan serta kurang didikan agama banyak mempengaruhi perubahan sikap dan tingkah laku informan sehingga terlibat dengan dadah.

5	Informan merupakan kanak-kanak yang masih memerlukan bimbingan dan perhatian daripada ibu bapanya. Tarikan kuat daripada pengaruh luar terutama rakan sebaya atau lebih tua darinya menyebabkan informan mudah dipengaruhi dan perasaan ingin mencuba sesuatu yang baru walaupun perbuatannya menyalahi undang-undang. Informan selalu berkawan dan ibu bapa informan tidak mengetahui baik buruk akhlak kawan-kawan informan. Informan mempunyai ruang untuk memperbaiki diri agar menjadi seorang insan yang berguna kepada keluarga dan masyarakat.
6	Informan diperintah dengan satu bentuk peraturan disiplin bagi memastikan kesalahan sama tidak berulang. Kesalahan ini merupakan kesalahan pertama informan dituduh di Mahkamah Kuala Krai. Maka, pegawai akhlak mengesyorkan informan dimasukkan ke mana-mana sekolah diluluskan agar dapat memastikan perubahan tingkah lakunya. Terdapat beberapa perkhidmatan dan kemudahan yang disediakan di asrama akhlak antaranya jagaan (tempat tinggal, makanan, pakaian, rawatan perubatan dan keperluan harian lain), kaunseling dan bimbingan (kaunseling individu, kaunseling kelompok dan sesi motivasi), kelas akademik (dalam dan luar institusi), pendidikan keagamaan dan moral, kelas latihan vokasional dan kemudahan sukan atau riadah.
7	Informan mengakui telah insaf dengan perbuatan mencuri dan tidak menyangka akan dikenakan tindakan undang-undang yang tegas kerana mencuri barangan bernilai puluhan ringgit sahaja. Informan juga insaf setelah berada di dalam lokap polis selama tiga hari sebelum dibebaskan dengan bayaran jaminan oleh ibu bapanya. Informan telah dicadangkan Bon Berkelakuan Baik dengan cagaran paling minimum dan informan serta ibu bapa atau penjaga perlu menghadiri bengkel interaktif serta aktiviti di dalamnya yang dikelolakan oleh Jabatan Kebajikan Masyarakat selama satu tempoh yang difikirkan sesuai oleh pihak mahkamah. Cadangan ini diberi dengan merujuk Seksyen 91 (a) (b) dan Seksyen 93 (1) (b) Akta Kanak-kanak 2001.
8	Informan merupakan seorang kanak-kanak berperwatakan sederhana, tidak agresif, pendiam, tetapi mudah dipengaruhi serta mengikut kawan-kawan. Informan tidak dapat membezakan perbuatan baik atau buruk. Informan harus diberi pemulihan agar tidak lagi mengulangi perbuatan tersebut. Bapa informan tidak mahu menjamin informan sebaliknya mahu menghantar informan ke asrama akhlak sebagai pengajaran dan kebaikan untuk informan.
9	Informan merupakan kanak-kanak yang masih memerlukan bimbingan, tunjuk ajar, dan perhatian lebih daripada ibu bapanya. Bapanya bekerja sebagai pengawal keselamatan dan bertugas pada waktu malam. Ketika bapanya bertugas, informan telah mengambil peluang keluar pada waktu malam. Informan dikatakan kurang mendengar nasihat ibu bapa, selalu membantah apabila diberi nasihat. Di sini dapat dilihat fungsi keluarga memainkan peranan penting untuk membentuk jati diri informan supaya menjadi insan berguna.
10	Informan melakukan kesalahan mencuri motosikal atas desakan abangnya kerana mereka memerlukan kenderaan untuk bergerak dari satu tempat ke satu tempat. Faktor usia pada peringkat awal remaja menyebabkan informan tidak mengetahui kesan serta akibat daripada perbuatan tersebut. Tambahan pula informan tidak mendapat perhatian dan kasih sayang daripada keluarga. Kemiskinan dan kesusahan hidup telah membuatkan informan tidak dapat meneruskan persekolahan dan terpaksa keluar mencari kerja untuk meneruskan kelangsungan hidup. Ayah responden telah menghilangkan diri. Informan tinggal bersama ibu dan neneknya. Ibunya tidak bekerja dan mengharapkan

	sepenuhnya bantuan daripada JKM yang diterima oleh neneknya sebanyak RM200 sebulan. Lebih menyedihkan, ibu informan terlibat dengan penagihan dadah. Tetapi, informan tidak terlibat dengan dadah dan tidak menghisap rokok.
11	Informan tidak bersekolah sejak berusia 13 tahun dan selalu mengikut ayahnya ke tapak binaan. Pada hari tidak bekerja, informan banyak menghabiskan masa bersama rakan-rakan sama ada seusia dengannya atau lebih dewasa daripadanya di sekitar kampung. Informan mengaku telah terlibat dengan pil khayal sejak berusia 15 tahun dan tidak tahu untuk apa pil tersebut diambilnya. Bapa informan tidak menyangka dan kesal dengan tindakan informan dan berharap agar informan insaf serta mengambil teladan.
12	Keluarga informan yang tinggal di kawasan komuniti mudah terdedah kepada masalah juvana mengaku tidak mampu untuk mengawal tingkah laku dan pergaulan informan. Keluarga telah menegaskan bahawa mereka tidak akan membayar denda atas kesalahan yang dilakukan kerana mereka telah memberi amaran awal kepada informan selain faktor kewangan yang dihadapi oleh keluarga.

Perbincangan dan Cadangan

Remaja perlu dibentuk dan diberi dorongan dalam melakukan kebaikan serta membezakan antara hak dan batil agar dapat membentuk jati diri Islam. Agar remaja tidak terlibat dengan salah laku akhlak, mereka wajar diberi penghayatan kehidupan berasaskan amalan dan nilai-nilai Islam. Terdapat beberapa faktor yang menyebabkan berlaku salah laku akhlak dalam kalangan remaja iaitu keluarga, rakan sebaya, perkembangan pesat teknologi, dadah, kesilapan memilih idola dalam kehidupan, inginkan kemewahan berlebihan serta kurang didikan agama. Selain itu, terdapat beberapa faktor lain yang mempengaruhi akhlak remaja antaranya ialah persekitaran pelajar iaitu ibu bapa, guru, rakan sebaya, masyarakat dan media massa (Hasbullah et al. 2020). Begitu juga dalam kajian (Absba Atiah Abu Bakar & Mohd. Isa Hamzah, 2019), faktor keterlibatan remaja dengan masalah sosial yang dapat dikenalpasti adalah diri sendiri, ibu bapa, media massa dan rakan sebaya. Daripada hasil pemerolehan pengkaji, faktor utama remaja terlibat dengan kesalahan juvana adalah disebabkan faktor sosioekonomi keluarga yang rendah. Ibu bapa informan tidak mempunyai pendapatan yang mencukupi untuk menyara kehidupan mereka sekeluarga. Keselesaan tempat tinggal memainkan peranan penting untuk memastikan anak-anak remaja berasa selesa ketika berada di rumah. Taraf ekonomi yang rendah dalam institusi kekeluargaan telah memaksa anak-anak keluar mencari pekerjaan bagi mendapatkan upah untuk membeli keperluan asas (Sharifah Shahida & Lukman, 2023). Daripada situasi ini anak-anak remaja mula terjebak dengan aktiviti tidak sihat seperti mencuri dan mengambil dadah seperti mana yang terjadi kepada informan 8 dalam kajian ini. Temu bual bersama informan, pengaruh rakan-rakan sangat kuat untuk merosakkan akhlak remaja sekaligus memusnahkan masa depan remaja. Hanya bermula dengan pengaruh seorang rakan, seseorang itu boleh terjebak dengan aktiviti tidak sihat seperti merokok, ponteng sekolah, tidak pulang ke rumah sehinggalah terlibat dengan dadah kerana remaja mempunyai rasa ingin mencuba (Norsahida Sakira Kirman, 2021). Selain itu, kurangnya kasih sayang dan perhatian daripada ibu bapa telah menyebabkan remaja terlibat dengan kesalahan jenayah (Nurul Shahira Zolkarnain & Faudziah Yusof, 2020). Hasil kajian ini turut disokong oleh kajian (Buerah Tunggak et al. 2015) yang mana faktor utama adalah sikap pelajar sendiri, faktor latar belakang keluarga, rakan sebaya, pengaruh media massa dan persekitaran.

Kesimpulan

Kesimpulannya, keterlibatan remaja dalam jenayah juvana tidak boleh menyalahkan remaja seratus peratus kerana masalah ini terjadi berpunca daripada institusi keluarga yang lemah. Selain itu, peranan guru-guru di sekolah, anggota masyarakat setempat turut memainkan peranan penting bagi mencegah remaja daripada terjebak dengan kesalahan jenayah dari awal. Pada peringkat remaja, mereka masih mencari-cari identiti diri dan laluan hidup yang betul. Mereka memerlukan bimbingan dan panduan daripada ibu bapa, guru-guru, dan masyarakat untuk membimbing mereka ke arah yang lebih sempurna. Remaja perlu kerap berkomunikasi dengan ibu bapa supaya ibu bapa dapat mengetahui setiap permasalahan yang dihadapi oleh anak remaja mereka. Semua pihak iaitu diri sendiri, ibu bapa, keluarga, guru, rakan sebaya, media massa dan anggota masyarakat mesti berganding bahu dan berperanan dalam usaha membentuk peribadi dan tingkah laku remaja. Golongan remaja pada masa ini perlu mempunyai jati diri yang mantap supaya dapat mengawal diri daripada terjebak dengan kesalahan juvana. Antara langkah-langkah yang perlu diberi perhatian kepada pihak remaja ialah bijak dalam membuat sesuatu keputusan dan sentiasa memilih untuk berada dalam kumpulan yang baik dan positif supaya dapat membantu remaja agar lebih banyak terdorong dan cenderung untuk melakukan perkara yang baik serta sekaligus dapat melatih diri remaja untuk bersikap positif. Selain itu, golongan remaja penting memastikan diri sentiasa berada dalam lingkungan persekitaran yang baik. Ibu bapa dan keluarga disarankan untuk saling mengambil berat dengan memberikan perhatian dan kasih sayang antara satu sama lain seperti meluangkan masa bersama keluarga dan anak-anak di waktu lapang dengan melakukan aktiviti-aktiviti yang berfaedah. Perkara seperti ini sangat penting untuk membina hubungan dengan lebih dekat antara ahli keluarga dan diri remaja sendiri. Sebaliknya, tanpa persekitaran yang baik, diri yang diabaikan atau disisihkan oleh ibu bapa serta ahli keluarga didapati menyumbang kepada berlakunya kesalahan juvana dalam kalangan remaja.

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