

ESTEEM

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ESTEEM

JOURNAL OF SOCIAL SCIENCES AND HUMANITIES

Journal Description

Introduced in 2017, ESTEEM Journal of Social Sciences and Humanities is an official journal of Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang with a registered e-ISSN 2600-7274. It is an open-access journal that publishes articles in English and Bahasa Malaysia. Initially, it was published once a year, from January 2017 to December 2020, but changed its publication frequency to twice a year starting in January 2021 to accommodate the increasing number of manuscript submissions. The journal adheres to traditional standards of double-blind peer review with an average acceptance rate of 30%. Currently, the journal does not charge any article processing fees for manuscripts submitted personally or collaboratively by authors.

Aim and Scope

The ESTEEM Journal of Social Sciences and Humanities aims to serve as a platform for scholars, practitioners, and policymakers to exchange new knowledge and ideas in social sciences and humanities areas. The journal provides an avenue for scholars and practitioners to document unpublished, original manuscripts related to emerging issues, developments, and trends that examine how people interact, integrate, behave and influence the world around them. Specifically, the journal aims to provide new knowledge on the relationships between individuals and societies and the operation and progression of organizations in the 21st century.

The key topics covered in the journal relate to emerging issues, trends, and challenges that shape individuals' perceptions, attitudes, and behaviors across societies, businesses, industries, and governments worldwide. As the journal covers two separate but interrelated areas of social sciences and humanities, authors are welcome to submit manuscripts that systematically investigate questions around humanities development, namely language, linguistics, culture, arts, religion, health, and wellbeing. For social sciences, the journal invites manuscripts related to human psychology and sociology in education, law, political science, business, and hospitality, among others.

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- January 2021 to present: ONE (1) volume TWO (2) issues per year, published in April and September.
- January 2017 to December 2020: ONE (1) volume ONE (1) issue per year, published in November.
- The publication frequency of the journal does not include special issues.

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- Publication (within 10 days after the copy-editing process)

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EDITORIAL NOTE

On behalf of the ESTEEM Journal of Social Sciences and Humanities (EJSSH) Editorial Team, I am delighted to present Volume 6, Issue No. 2, September 2022. Out of 55 submissions received, only 15 manuscripts were accepted for publication after the stringent review process, representing a 27.27% acceptance rate. After multiple series of the double-blind peer review process, only 11 high-quality manuscripts met the standard empirical paper requirement and were successfully published.

The September 2022 issue covered emerging issues, trends, and challenges in social sciences and humanities. Specifically, four papers are about improving the education system such as papers on the development of mathematical thinking tests and scaffolding online learning. One research looked at the potential of traditional Malay woodcarving as a cultural heritage tourism product, while another examined the service quality attributes influencing Spa goers' satisfaction. Under the theme of health and wellbeing, a paper investigated socio-demographic factors influencing fatigue levels among community-dwelling older people. Several other papers focused on research topics related to the impact of minimum wage on labor market institutions, the right to food information and food choice, and factors affecting volunteer smartphone patrol app adoption.

For the year 2023, we are looking forward to more international-based papers. We welcome collaborative-based papers that celebrate intellectual diversity in social sciences and humanities fields across countries, regions, and continents. They are much appreciated and will make a significant contribution to the sustainability of this journal. Also, we would like to receive more papers that focus on the United Nation's Sustainable Development Goals. I would like to take this opportunity to thank all contributors, authors, reviewers, and Editorial Team members, whose concerted efforts have made this issue possible. We hope this issue will provide valuable insights and knowledge to our readers. We welcome any constructive feedback and comments toward the betterment of the journal. Together, we can achieve greatness.



Editor-in-Chief

Anderson Ngelambong, Ph.D.
ESTEEM Journal of Social Sciences and Humanities
Universiti Teknologi MARA Cawangan Pulau Pinang

Impact of Minimum Wage on Labour Market Institutions in Developing Countries: A Systematic Review

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ABSTRACT

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Minimum wages have become one of the most contentious economic interventions by the government. Minimum wages compress the wage structure and alter income distribution, primarily among wage earners. Since minimum wage policies are being implemented in most developing countries, it is essential to understand their effects to determine their efficacy. The minimum wage is not a new phenomenon that has inspired numerous relevant academic studies. Minimum wage systems should complement and strengthen other social and employment policies. However, few systematic reviews of the existing literature on the effect of minimum wage in developing nations have been conducted. The purpose of this article is to underline a comprehensive literature review on the impact of minimum wage on labour market institutions in developing countries. This study used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) review method, utilising the Scopus and Web of Science journal databases. The search efforts resulted in a total of 22 articles that can be systematically analysed. Most importantly, the review identified four major themes: policymakers, firm management, poverty reduction, and low-wage workers. Overall, additional analysis of the four themes led to the identification of sixteen subthemes. Several recommendations are made regarding conducting further qualitative studies, using a specific and standard systematic review method to guide research in the context of minimum wages, and implementing complementary searching techniques.

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1. INTRODUCTION

Over the past several decades, there has been a growing interest in the role of minimum wages in promoting social justice and rebalancing the economy at the national level. The minimum wage system is globally diverse, with many different policy approaches to achieve their effective application. Some countries have established simple systems that apply one minimum wage for all employees, while others have more complex systems with multiple rates by sector of activity, occupation or geographical region (Monica & Maribel, 2021). Before the implementation of minimum wage, wage increments were identified to boost labour productivity and lead purchasing power toward competitive economic growth (Senasi, 2020). They can be a powerful instrument for advancing decent work objectives and a crucial supplement to efforts to strengthen social protection floors and reduce poverty. As many nations seek to bolster domestic growth sources, this has become more significant. Therefore, minimum wage policy decisions worldwide uphold the principle of providing their workers with a fair living wage (Senasi, Khalil, & Parasuraman, 2021).

In both developed and developing nations, minimum wages are a standard policy. The primary goal of the minimum wage is to protect workers by establishing a reasonable minimum wage. Since the late 1990s, numerous countries have implemented or strengthened their minimum wage systems. In 1999, the United Kingdom implemented a national minimum wage, quickly followed by Ireland and several former economies in transition in Eastern Europe. Recently, the United Kingdom announced its intention to gradually raise the minimum wage to a living wage by 2020 (Belser & Xu, 2018). The minimum wage has been reinstated in many emerging and developing economies across the globe. After 2005, Brazil began gradually increasing the federal minimum wage. In 2007, the Russian Federation implemented a new regional pay system and, more recently, a two-stage increase to bring the level to subsistence level. India is considering a legal reform extending the Minimum Wage Act's coverage from established ('scheduled') occupations to the entire wage-earning population. China established a provincial minimum wage system in 1994 and bolstered it with reforms in 2004. South Africa recently announced that a new national minimum wage would be implemented in 2018 to supplement the existing sectoral determinations enacted after the fall of apartheid. Cambodia, Cape Verde, Costa Rica, Malaysia, and Myanmar are a few nations that have strengthened their minimum wage structures (Belser & Xu, 2018).

Legislating a minimum wage has long been viewed as an attractive means of reducing inequality and promoting social justice. This usually does not necessitate significant financial investments. Politically, it is simple and easy to explain. It is a market-based approach (as opposed to tax and transfer) to reducing inequality (Fedorets & Shupe, 2021). The minimum wage is associated with the concept of fairness and prevents endless debates over who "deserves" government transfer. In many countries, minimum wages have been set so high as to be largely irrelevant to the labour markets they are supposed to regulate (Soares, 2018). For policy purposes, it is important to establish a sustainable minimum wage dynamic and understand how its effects vary across regions (Pantea, 2020). Statutory minimum wages are frequently used to improve the welfare of workers. Substitution of low-skilled and high-skilled labour may lead to wage increases for workers earning above the minimum wage (Neumark, 2018). The minimum wage has evolved from a policy instrument used selectively in a few low-wage industries to a much broader mechanism. Therefore, this paper contributes to understanding the effects of the minimum wage on the labour market in developing nations. The emphasis is highly relevant in developing countries because it is a deliberate and conscientious effort to revitalise the economic growth-oriented change process.

A systematic review is an examination of a clearly defined question that employs systematic and explicit methods to identify, select, and critically appraise relevant research in addition to collecting and analysing data from included studies. The results of the included studies may or may not be analysed and summarised using statistical techniques. Despite the abundance of research on the effects of the minimum wage, efforts to analyse the existing literature in these studies through a systematic review of prior research are still lacking. Although some studies have attempted a systematic review of the effects of minimum wage, their focus is not on groups residing in developing nations (Sotomayor, 2021). This article attempts to fill the gaps in understanding and identifying the effects of minimum wages on the labour market institutions of developing countries.

This paper review is guided by the central research question: What impact does a minimum wage have on the labour market in developing countries? The main focus of this study is to understand and identify how minimum wage can affect the labour market in developing countries. A particular focus was given to a group of developing countries because the issues faced in developing countries are somewhat different and broader than those faced by developed countries. Developing countries are more likely to have sectors not covered by minimum wage laws, and those sectors are considerably more significant than the uncovered sector in developed countries. Until now, there has been a shortage of studies that provide a comprehensive baseline on the effects of minimum wage on labour markets in developing nations. In addition, the first section of this study is vital because it focuses on the role of policymakers in providing a clearer picture of the consequences of implementing a minimum wage. The minimum wage is considered a reliable public policy to enhance the bargaining power of employees in the labour market, such as by increasing employment and productivity (Paun et al., 2021) and how a minimum wage increase combined with tax incentives affects labour outcomes (Campos-Vazquez et al., 2020). Intuitively, the sharp increases in the minimum wage can affect the capital (Chorna, 2021) or are usually indicated by a wage policy that stabilises the minimum wage (Wulansari, 2021). Second, little attention has been paid to evidence of how the minimum wage affects firm management. Although there have been many empirical studies on the effects of minimum wages on employment and prices, there have been relatively few studies on the relationship between minimum wages and firm profitability (Cuong, 2017). Several firm responses, including firm profitability, labour costs, and fluctuations in firm value in response to an increase in the wage floor, have been outlined to fully comprehend the impact of minimum wage on businesses (Bell & Machin, 2018). Moreover, many of the characteristics of low-quality occupations appear to be alternative adjustment mechanisms in light of the high wage costs that a higher minimum wage entails. While some of these practices are legal, reducing working hours is not one of them (Monica & Maribel, 2021).

Next came a popular and persuasive argument in favour of the impact of minimum wages on poverty reduction (Mansoor & O'Neill, 2021). A minimum wage rate is expected to increase a worker's financial capacity, resulting in a higher standard of living (Senasi et al., 2021). It may also affect the eligibility requirements for social benefits, as some workers may be excluded from receiving them but continue to live in poverty (Kurta & Oruc, 2020). From the perspective of labour market regulation, policymakers should seek to enhance labour force mobility, job security, and flexibility (Popescu et al., 2021). The effectiveness of a country's minimum wage policy depends on whether it can redistribute earnings to low-paid workers without causing employment loss (Ham, 2018) or substitute low-skilled workers with those with more human capital (Kurta & Oruc, 2020). Due to low skill requirements for the work involved or the high costs associated with worker migration to high-wage areas, low-wage occupations, such as the domestic work sector, influence wage determination in developing countries (Bryan & Morten,

2019). The imposition of a minimum wage may alter the distribution of wage offers and reduce inefficient unemployment (Cardoso, 2019).

The study has several significant impacts on the body of knowledge regarding minimum wage. By referencing the study, policymakers and other interested parties can comprehend the effects that must be considered when implementing the minimum wage. This will reduce the information gap between previous studies. This section explains why a systematic review is being conducted, while the next section discusses the methodology and PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach used. The third section reviews and synthesises scientific literature to identify, select, and assess relevant research. Finally, the final section identifies future research priorities.

2. METHODOLOGY

This section discusses the five major sub-sections used in the current study to retrieve articles on the impact of minimum wage on labour market institutions in developing countries: PRISMA, resources, inclusion and exclusion criteria, systematic review procedure, and data extraction and analysis.

2.1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses

The PRISMA is a published standard for conducting a systematic literature review. Generally, publication standards are necessary to provide authors with relevant and essential information to evaluate and assess the quality and rigour of an examination. It identifies inclusion and exclusion criteria and attempts to examine an extensive database of scientific literature within a predetermined time frame. The PRISMA statement enables a thorough search for terms associated with the response of policymakers to the minimum wage and its effects. This methodology can monitor the impact of minimum wages on labour market institutions.

2.2 Resources

Scopus and Web of Science (WoS) were the two primary journal databases for the review. WoS is a robust database containing 33,000 journals covering over 256 disciplines, including interdisciplinary social sciences, social issues, and development and planning. It ranks these by three distinct metrics: citations, papers, and per paper. Scopus is the second database utilised in the review. It is one of the largest databases of abstracts and citations for peer-reviewed literature, with 22,800 journals from 5000 publishers worldwide. Scopus contains a variety of subject areas, including the social sciences, economics, business, management, and accounting.

2.3 Eligibility and Exclusion Criteria

For this analysis, several eligibility and exclusion criteria have been established. First, in terms of literature type, only article journals containing empirical data, namely review articles, were chosen. Excluded were all book series, books, book chapters, and conference proceedings. Second, non-English publications were excluded from the search efforts to avoid confusion and translation difficulties. Thirdly, a period of five years (between 2017 and 2021) was chosen, sufficient for observing the evolution of research and related publications. Fourth, as the review process concentrated on the influence of minimum wages on labour market institutions, articles indexed in economic indexes were chosen. Finally, in keeping with the intended emphasis on developing nations, only articles about developing countries were selected (see Table 1).

2.4 Systematic Review Process

The systematic review procedure included four steps. The review was conducted in November of 2021. The first phase consisted of the identification of the search terms. Utilising prior research and a thesaurus, similar or related keywords to minimum wage and labour market were used. At this stage, ten duplicate articles were eliminated after careful screening.

The second phase involved screening. At this point, 177 articles out of 254 that were eligible for review were eliminated. The third phase, eligibility, consists in accessing the full articles. Fifty-five articles were excluded after careful consideration because they did not focus on the impact of minimum wage, were not empirical studies, did not focus on the labour market, or did not focus on developing nations. The final stage of evaluation resulted in a total of 22 articles for qualitative analysis (see Figure 1).

2.5 Data Abstraction and Analysis

The remaining articles undertook evaluation and analysis. The focus was on specific studies that provided answers to the formulated questions. First, the data were extracted by reading the abstract and the full article (in-depth) to identify appropriate themes and sub-themes. Then, using content analysis, a qualitative analysis was conducted to identify themes regarding the impact of minimum wage on the labour market in developing nations.

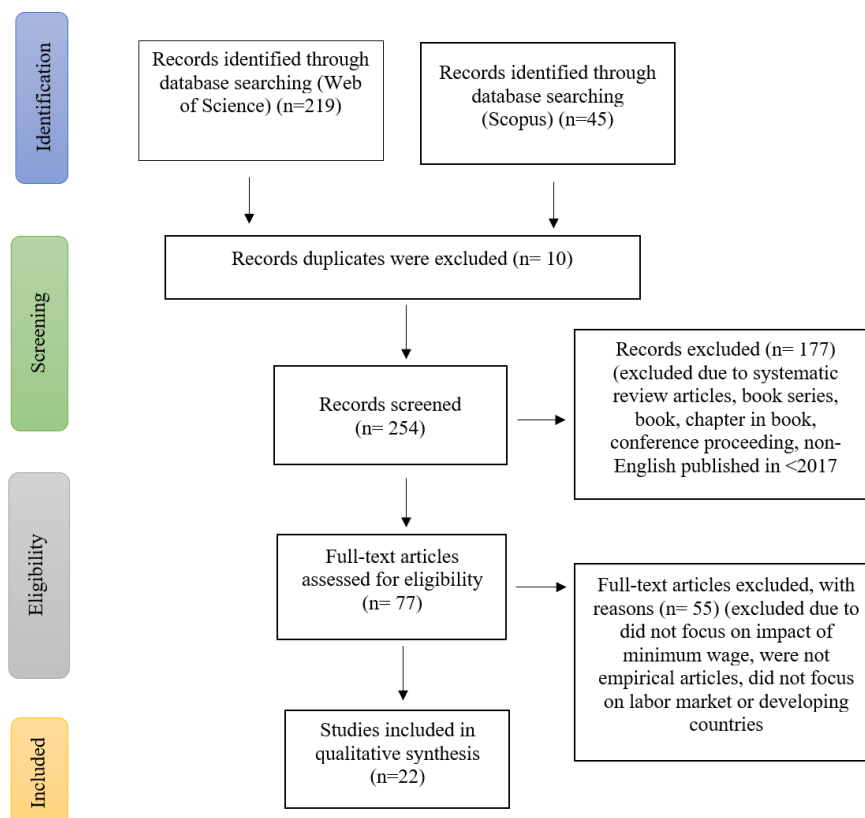


Figure 1 The Systematic Review Process

Table 1 Papers Selected for the Study

Authors/countries	Main study design	Policymaker				Firm Management				Reduce Poverty					Low Wage Worker		
		IE	IP	TI	WP	LC	IF	WH	FP	IS	SI	JS	HW	UR	LW	MG	ED
Paun et al. (2021)- Romania	QN	√	√			√									√		√
Campos-Vazquez et al. (2020)- Mexico	QN		√	√									√				
Kurta and Oruc (2020)- BiH	QN				√								√				
Popescu et al. (2021)- Romania	QL	√						√			√	√		√			
Sahin (2020)- Turkey	QN		√														
Alexandre et al. (2021)- Portugal	QN		√			√			√								
Cuong (2017)- Viet Nam	QN							√	√	√	√		√				
Campos-Vazquez & Esquivel, (2021)- Mexico	QN												√				√
Garcia-Louzao & Tarasonis (2021)-Lithuania	QN	√											√				√
Wulansari (2021)- Indonesia	QL		√		√					√	√						√
Katzkowicz et al. (2021)- Uruguay	QN																√
Mansoor & O’Neill (2021)- India	QN																
Ni and Kurita (2020)- Indonesia	QN				√	√			√	√			√				
Siregar (2020)- Indonesia	QN				√						√			√			
Pantea (2020) - Romania	QN		√					√						√			
Carpio et al (2019)- Thailand	QN			√						√			√	√			√
Pérez (2020)-Mexico	QN							√									
Sotomayor (2021)-Brazil	QN							√		√				√			
Monica & Maribel (2021)-Argentina	QN		√			√		√							√		
Ham (2018)- Honduras	QN	√			√			√		√			√			√	√
Gudibande & Jacob (2020)- India	QN	√														√	
Senasi et al. (2021)- Malaysia	QN		√	√		√		√		√					√		

Policy Maker

Firm Management

Reduce Poverty

Low-Wage Worker

IE= Increase Employment

IP= Increase Productivity

TI= Tax Incentive

WP= Wage Policy

LC= Labour Cost

IF= Increase Wage Floor

WH= Working Hours

FP= Firm Profitability

IS= Improve Living Standard

SI= Social Insurance

JS= Job Security

HW= High Wage Workers

UR= Unemployment Rate

LW= Low Skilled Worker

MG= Migration

ED= Education

QN= Quantitative; QL= Qualitative

3. RESULTS

The review resulted in four main themes and 16 sub-themes related to the impacts of minimum wage policies. The four main themes are policymakers (four sub-themes), firm management (four sub-themes), poverty reduction (five sub-themes) and low-wage workers (three sub-themes). The results provided a comprehensive analysis of the impact of minimum wage on the labour market in developing countries.

A total of three studies focused on Romania (Paun et al., 2021; Popescu et al., 2021; Pantea, 2020), Mexico (Campos-Vazquez et al., 2020; Campos-Vazquez & Esquivel, 2021; Pérez, 2020) and Indonesia (Wulansari, 2021; Ni & Kurita, 2020; Siregar, 2020). Two studies concentrated on the impact of minimum wage in India (Mansoor & O'Neill, 2021; Gudibande & Jacob, 2020) and one study covered 11 different countries, including Bosnia and Herzegovina (BiH) (Kurta & Oruc, 2020), Turkey (Sahin, 2020), Portugal (Alexandre et al., 2021), Vietnam (Cuong, 2017), Lithuania (Garcia-Louzao & Tarasonis, 2021), Uruguay (Katzkowicz et al., 2021), Thailand (Carpio et al., 2019), Brazil (Sotomwayor, 2021), Argentina (Monica & Maribel, 2021), Honduras (Ham, 2018), and Malaysia (Senasi et al., 2021).

Two studies used a qualitative approach, while the rest (20) used quantitative analytic methods. In terms of publication years, eleven articles were published in 2021, eight in 2020, and one article each in 2019, 2018, and 2017.

3.1 Impact of Minimum Wage on the Labour Market in Developing Countries

This section concentrates on the significant impact of the minimum wage on the labour market in developing countries. The four main themes discussed in this paper are a policymaker, firm management, reduced poverty and low-wage worker.

3.1.1 Policymaker

A total of 16 out of 22 studies focused on the role of policymakers when implementing the minimum wage. The most common understanding of the effect of minimum wage practices by policymakers is increasing employment (5 studies), while eight studies found that it relied on it to increase productivity. Three studies focus on tax incentives and five on the wage policy (Table 1).

The potential impact on employment has remained at the core of the minimum wage policy debate. According to leading economists, minimum wage increases have no discernible effect on employment. In theory, the effectiveness of a country's minimum wage policy is determined by its ability to redistribute earnings to low-wage workers without causing a loss of employment (Paun et al., 2021). For instance, if a company is the only employer in a particular market, it may be able to offer lower wages than would be the case if competition existed. In this case, a minimum wage can increase worker incomes without decreasing employment. Indeed, higher wages may increase employment by attracting more workers. In Honduras, exploiting considerable variation at the category level in wage floors and their net effects on labour market outcomes provides credible evidence of small employment losses (Ham, 2018). In India, implementing a minimum wage law could lead to an increase in employment, depending on the magnitude of the wage gap between the minimum wage and current market wages. In other words, given the degree of monopsony power to set wages, a relatively low minimum wage value of the worker's marginal product, the employer can pay the minimum wage and still employ more workers until the minimum wage equals the value of the marginal product. In the

short run, the impact of legislation at both the intensive (real wages) and extensive (employment) margins had a positive and statistically significant effect on real wages in the urban areas of four Indian states (Gudibande & Jacob, 2020). When wages are below marginal productivity in Lithuania, there is room for minimum wage increases that would not lead to job losses. Similarly, higher minimum wages could reduce job vacancies and turnover instead of destroying jobs (Garcia-Louzao & Tarasonis, 2021). Regarding participation in the Romanian labour market, the total employment rate (for 15-64 years old) reached a low of 57.6 per cent in 2005, then steadily increased in the following years, reaching a high of 65.8 per cent in 2019 (Popescu et al., 2021).

The minimum wage is also an indicator of labour productivity and the level of compensation in each country. If labour productivity increases due to a minimum wage increase, a rise in employment is expected (Monica & Maribel, 2021). In Malaysia, a study by Senasi et al. (2021) found that most Malaysian workers agree that a minimum wage increases labour productivity and that the government should now focus on the Productivity Linked Wage System (PLWS) to improve and propel Malaysia into a high-income nation. The inclusion of labour productivity is consistent with the findings that productivity has a positive and significant effect on wages in Indonesia, leading to increased employment (Tadjoeddin & Chowdury, 2018). Therefore, the government must comply with the minimum wage policy to guarantee fair and equitable wages for all workers.

Developing countries viewed that with limited tax bases and consequently limited resources for other labour market policies, minimum wages are utilised more frequently to improve a lot of low-skilled workers and poor individuals (Carpio et al., 2019). In the case of Malaysia, the government could provide tax relief and incentives to businesses that have implemented a minimum wage policy (Senasi et al., 2021). The minimum wage in Bosnia and Herzegovina is a component of the tax-benefit system in both administrative units (entities) of BiH, the Federation, and the Republic of Srpska (RS) and was developed under particular institutional and legal frameworks (Kurta & Oruc, 2020). In the Federation of Bosnia and Herzegovina, the minimum wage is set as a minimum net hourly wage, while in the Republic of Srpska, it is set as a minimum net monthly wage. There have been several periodic changes to the minimum wage in the federation and the RS, which are typically implemented at the end of the year and take effect the following year (Kurta & Oruc, 2020).

Global minimum wage policy decisions provide workers with a fair living wage. When we look at different countries, the debate over the impact of the minimum wage may become controversial. Since Joko Widodo (Jokowi) became the president, Indonesia's new wage policy mechanism has made history. The logic of this wage policy is problematic because economic factors are not the only determinant of wage increases. Instead of resolving the wage issue, Jokowi's low-wage policy formalises it. Jokowi's low wage is ceremoniously illegal (legally) and has also formalised wage inequality in the regional context (Wulansari, 2021). Before changing the minimum wage levels, it is critical to consider the policy's effects on the labour market and specific categories of workers (Siregar, 2020). Similar to other developing countries, the minimum wage in Honduras is high but poorly enforced in a segmented labour market. Evaluations of minimum wage policies frequently rely on variations in minimum wage structures. Imposing high minimum wages negatively affects labour markets, welfare, and compliance. The minimum wage policy of Honduras is not likely to serve as a model for other nations, but it may serve as a cautionary tale (Ham, 2018).

3.1.2 Firm Management

Firm management is mentioned in the studies as one of the measures to impact minimum wage. A total of 11 out of 22 studies focused on firm management to determine the impact of the implementation. Under this theme, four sub-themes emerged: labour cost, increased wage floor, working hours, and firm profitability. Five studies focused on labour costs, and two examined the increasing wage floor. Six studies mentioned working hours and firm profitability were also mentioned by three studies (Table 1).

The precarious state of financially distressed firms raises concerns about the impact of minimum wage policies. Business leaders often publicly express their concerns about the effects of wage cost increases, especially in sectors with a high minimum wage incidence and where labour costs account for a large portion of total costs. Previous studies have also revealed the impacts of increases in firm activity and financial conditions. The impact on firms' total costs in the short run is determined by their ability to pass on wage increases to consumers and the proportion of workers earning the minimum wage (Alexandre et al., 2021). The impact of minimum wage will be determined by firms' ability to change their capital-to-labour ratio. Firms' financial situation will worsen if they cannot fully offset the impact of the minimum wage increase (Paun et al., 2021). Firms in Indonesia are required to reduce employment when faced with the pressure of rising labour costs due to regulatory compliance. Since a firm's markup can be defined as the price or marginal cost ratio, a decrease in the value of the denominator (decreased labour cost) happens when a firm chooses to maintain commodity price stability to avoid losing customers is equivalent to an increase in the firm's markup. In the case of "markup," a firm's reduced labour costs due to minimum wage regulation are likely to increase profit. On the other hand, high-wage firms will see their profits (markup) decrease as their share of labour costs rises (Ni & Kurita, 2020). In Argentina, if firms can raise prices to transfer the increase in labour costs to consumers, this could explain the small observed employment response to minimum wage changes (Monica & Maribel, 2021). In the Malaysian context, the imposition of minimum wages would result in increased labour costs, harming the firm's profit margins and, in the long run, the closure of their businesses (Senasi et al., 2021).

Adding to this discussion, the subsequent effect of minimum wage is an increasing wage floor. Implementing a minimum wage would provide a wage floor, removing the worst excesses of low pay and worker exploitation (Dube, 2019). Identifying minimum wage effects entails comparing income distributions observed after wage floor increases to distributions depicting what would have happened in the absence of the increases. Because increases in the national wage floor are more binding in lower-income regions than in higher-income ones, Brazil can provide an effective identification strategy (Sotomayor, 2021). Although legal wage floors apply to employers and employees in Honduras, large businesses comply much more with minimum wage than small businesses (Ham, 2018). Surprisingly, even though it is not regulated, the public sector is mainly compliant. The minimum wage in Portugal is set for one month of full-time work. The minimum wage increased by 14.8% between 2014 and 2017. In October 2014, the minimum wage increased by 4%, from 485 to 505 euros per month. Despite the minor increase, the proportion of workers earning the minimum wage rose from 13.2 per cent to 19.6 per cent. In 2016, the government announced that the minimum wage would be 600 euros in 2019. In 2016, it was 530 euros, 557 euros in 2017, 580 euros in 2018, and 600 euros in 2019. During this period, the proportion of workers paid the minimum wage reached 25.7 per cent in 2017 (Alexandre et al., 2021).

Another issue to consider in studies on the impact of the minimum wage is the working hour. In Malaysia, a worker must work four days for twelve hours to earn the daily minimum wage

of RM63.48. It is a low wage for a statutory minimum wage increase in Malaysia from RM1,100 to RM1,200. Although the Malaysian government based its minimum wage policy decision on the recommendations of the National Wages Consultative Council and relevant stakeholders throughout the country, many parties have expressed mixed feelings about its implementation (Senasi et al., 2021). Firms in Vietnam can adjust to higher costs due to increased minimum wages so that working hours may be increased (Cuong, 2017). In Romania, it is worth noting that the government's labour-market support measures may result in fewer hours, with employees keeping their jobs (Popescu et al., 2021).

In some developing countries, current evidence indicates that raising the minimum wage hurts firm profitability. For example, Alexandre et al. (2021) found that minimum wage increases hurt profitability. Cuong (2017) explained that the minimum wage might be ineffective in Vietnam because some businesses pay their employees less than the minimum wage. Because these businesses may not pay the minimum wage, increased minimum wages do not affect their profitability. However, high-wage firms in Indonesia will see their profits (markup) decrease as their labour cost share rises (Ni & Kurita, 2020).

3.1.3 Reduce Poverty

A total of five sub-themes emerged under the reducing poverty theme, namely improve living standards (7 studies), social insurance (4 studies), job security (1 study), high wage workers (8 studies) and unemployment rate (5 studies) (Table 1).

Most of the world's countries currently exhibit substantial and expanding disparities in living standards. Studies by Carpio et al. (2019) found that the labour market analysis suggests that Thailand's minimum wage law is likely to have a positive impact on the welfare of individuals at the bottom of the distribution. This conclusion is supported by the analysis of the effect of the minimum wage on household consumption per capita and household poverty, which indicates that a 10 per cent increase in the minimum wage is associated with a non-negligible 2.1 percentage point decrease in household poverty. In Brazil, Sotomayor (2021) discovered that significant increases in the minimum wage are more likely to reduce poverty because statistics indicate that poverty and income inequality decreased by 2.8% and 2.4%, respectively, within three months of a minimum wage increase. Additionally, minimum wages can improve living standards. Ham (2018) investigated how minimum wages affect poverty in Honduras. The impact of the minimum wage on poverty in Honduras is theoretically ambiguous, and its direction is frequently determined empirically. Since informal jobs are predominantly low-wage part-time positions, earnings in the uncovered sector often fall below earnings in the covered sector. As a result, a growing informal sector could lead to income losses, pushing some individuals into poverty. However, minimum wages reduce poverty if the gains in income for the covered sector outweigh the losses. According to Vietnam's Labour Law, the minimum wage is intended to cover "the basis of an employee's cost of living who is employed in the most basic job under normal working conditions" (Cuong, 2017). In Malaysia, a shifting competitive advantage toward the high-paying labour market necessitates the implementation of a minimum wage policy, and the vast majority of low-skilled workers anticipate an improvement in their standard of living (Senasi et al., 2021).

Minimum wages have been justified to improve the welfare of workers at the bottom of the pay scale while also reducing inequality and promoting social inclusion. In Vietnam, Cuong (2017) found that many state enterprises base their wage scales on the minimum wage for labourers. It implies that as minimum wages rise, workers in state-owned businesses whose pay exceeds the new minimum wage may also receive wage increases or higher social insurance. The

implementation of minimum wage in Indonesia provides social protection for workers by establishing what is believed to be an appropriate wage floor, which supports the view that this policy has clear winners and losers (Siregar, 2020). Although the potential of minimum wage policy to increase labour income for low-paid workers, along with the associated reduced reliance on welfare benefits and enhanced perception of social fairness, should be considered alongside the potential costs of minimum wage increases (Garcia-Louzao & Tarasonis, 2021).

The studies about the job security effect of minimum wages are essential to improving the lives of those most vulnerable in the labour market. From the perspective of labour market regulation in Romania, policymakers should seek to increase job security. Also worthy of consideration are forms of employment such as freelancing and self-employment, both from the perspective of job security (pension, unemployment) and other perspectives (minimum wage, work schedule). Active labour market policies can be more practical than employment protection because they focus on protecting workers instead of jobs (Popescu et al., 2021).

Higher wages are usually established by the market, interest parties, or the government. Most countries have their regulations and adaptations for implementing the wage structure. Before implementing a minimum wage, wages were determined through voluntary negotiations and agreements between employer and worker representatives. Higher-waged employees will be more incentivised to keep their job to maintain their quality of life (Senasi, 2020). Recent studies by Garcia-Louzao and Tarasonis (2021) revealed that the potential of the minimum wage policy is to increase the labour income of low-income workers, thereby reducing their reliance on welfare benefits and enhancing their perception of social fairness. Moreover, (Campos-Vazquez et al., 2020; Campos-Vazquez & Esquivel, 2021; Cuong, 2017) research demonstrates that implementing a minimum wage can result in higher wages for workers at the bottom of the income distribution. For example, minimum wage increases in Honduras led to higher average wages in the covered sector and vice versa in the uncovered sector (Ham, 2018). In Thailand, minimum wages decrease inequality because the estimated effects on wage distribution are more significant at the bottom than at the top (Carpio et al., 2019). In contrast, businesses that offer higher average wages to their employees should be more resistant to the shock and less likely to alter their economic behaviour (Ni & Kurita, 2020).

Increasing the minimum wage may result in a higher unemployment rate because some employers and companies hire fewer workers. The Romanian labour market experienced low unemployment rates in the last period (3.9% in 2019). However, in the current context, growth trends are visible and unavoidable (4.3% in the first trimester of 2020, rising to 5.4% in the second) (Popescu et al., 2021). In his study, Sotomayor (2021) found that the minimum wage resulted in a renewed decline in poverty and inequality, indicating that potential unemployment costs were once again outweighed by benefits in the form of higher wages among working individuals. A 10 per cent increase in the lagged minimum wage variable is anticipated to reduce unemployment by 3 per cent. The negative and significant unemployment coefficient indicates that a decrease in formal employment due to an increase in the minimum wage not only shifts workers to the informal sector but also forces them to leave the labour force (Siregar, 2020). This decrease in unemployment is mainly attributable to the departure of workers from the labour force. Pantea (2020) found that increasing the minimum wage did not significantly impact high unemployment in Romania while highlighting policymakers' concern that increasing the minimum wage would substantially impact regions with pre-existing high unemployment rates. In Thailand, where unemployment is exceptionally low (1.2% on average), Carpio et al. (2019) find that the minimum wage has no statistically significant effect on unemployment, neither overall nor for specific subgroups of workers.

3.1.4 Low-Wage Worker

A total of 10 studies found that minimum wage relied on low-wage workers and is related to low-skilled workers (6 studies), migration (3 studies), and also education (3 studies) (Table 1).

The potential benefits of higher minimum wages derive from higher wages for affected workers, some of whom come from low-income or poor families. On the other hand, a higher minimum wage may discourage firms from employing the same low-wage, low-skill workers that minimum wages are designed to assist (Paun et al., 2021). If minimum wages reduce the employment of low-skilled workers, they are no longer a "free lunch" for low-income and poor families but rather a trade-off between benefits for some and costs for others. Studies by Campos-Vazquez and Esquivel (2021); Garcia-Louzao and Tarasonis (2021), and Wulansari (2021) show that there are negative effects on unskilled workers but not on skilled workers, with the negative effects being more severe in small businesses. The requirement to pay a minimum wage can also be viewed as an impediment to the expansion of a business and the hiring of workers, particularly those with fewer skills (Paun et al., 2021). In emerging economies, the minimum wage is frequently set at relatively high levels relative to average wages. As a result, a more significant proportion of the labour force is unskilled and earning at or near the minimum wage. Also, when the minimum wage is increased, job losses for non-production workers and low-skilled employees are more severe, possibly because their wages are close to or below their labour productivity (Monica & Maribel, 2021). In Malaysia, 63.7% of low-skilled workers agree that the minimum wage influences their attitude (motivation, effort, and commitment), skill development, and labour productivity practices (Senasi et al., 2021). Many academics have expressed a positive opinion in extensive discussions about the effects of minimum wage on low-skilled workers. A minimum wage motivates workers to put in more effort (Productivity Report, 2013). As a result, labour productivity is thought to arise due to workers' productive effort (effort intensification) due to the wages or incentives provided to them.

The effect of the minimum wage on migration is one of the most controversial issues in modern labour economics. As previous research has demonstrated, migrant workers typically have less access to human capital, so their access to occupations with better economic returns and prestige is frequently restricted (Zhang & Wu, 2017). With the rising migration rate, it is worth reconsidering the impact of a minimum wage increase on the labour market returns of workers (Yang & Gunderson, 2019). Due to the high costs associated with worker migration to high-wage areas, low-wage occupations, such as domestic work, are more likely to be monopolised in developing countries, where employers have more significant influence in wage setting. While wage floors reduce the likelihood of employment relative to unemployment, cross-industry migration is not precluded (Ham, 2018). The first supply-side factor in India is that higher minimum wages in treatment states resulted in an increase in the supply of domestic sector workers in these states as a result of both inter-sector and inter-state migration, resulting in the gradual disappearance of wage differential trends. Karnataka, a state in India's southwestern region that had already implemented the minimum wage law, discovered that domestic worker migration followed the same pattern as the other treatment states. Furthermore, there are no significant differences between Karnataka and other states regarding migration characteristics (Gudibande & Jacob, 2020). According to studies conducted by Katzkowicz et al. (2021), there was no migration of workers from other sectors into the domestic-work sector in Uruguay after the minimum wage was implemented.

The previous study also shaped the views about the effect of minimum wages on educational institutions. In Thailand, the minimum wage has a diminishing impact with increasing levels of

education. The wage elasticity to changes in the minimum wage ranges from 0.25 (not statistically significant) for university-educated workers to 0.61 (statistically significant at the 1% level) for workers with less than an elementary education (Carpio et al., 2019). In Thailand, the minimum wage significantly affects average wages, which decrease with education level, are concentrated among the young and elderly, and diminish for higher-earning workers. So far, the increasing minimum wage in Thailand has positively affected the average wages of covered employees and even workers with secondary education and those earning well above the wage distribution's median benefit from the wage increases. In addition, there are no significant effects of the minimum wage on the probability of working in the unprotected sector, except for a relatively significant positive effect for workers with higher levels of education (Paun et al., 2021; Ham, 2021).

4. DISCUSSION

This research aimed to conduct a systematic review of the existing literature on the effect of the minimum wage on the labour market in developing nations. The minimum wage is the lowest wage permitted by law or collective bargaining agreements. A comprehensive search of two databases has resulted in 22 articles on the impact of the minimum wage. This review's scope revealed four main themes and sixteen subthemes.

According to the perfect competency model of economic theory, increasing the minimum wage above the marginal productivity value of workers will lead to unemployment. This is because the labour demand elasticity will determine the job loss. In other market models, however, increasing the minimum wage may increase labour demand. For example, employers can offer lower wages in a monopsony labour market than in a competitive market. Therefore, a minimum wage would force these employers to pay more than the monopsony wage. Thus, employment can be increased if the minimum wage is set higher than the monopoly wage but lower than the perfect competence wage (Carpio & Pabon, 2017).

Some of the minor effects of minimum wage observed primarily in workgroups covered by collective bargaining agreements may be attributable to the strength of unions. The degree of minimum wage non-compliance varies based on the number of wage rates in effect and the design of the minimum wage system. In addition, compliance is contingent on establishing an appropriate minimum wage structure and rate in close collaboration with employers and worker's organisations (International Labour Organization, ILO, 2016). According to Sotomayor (2021), the implementation of the minimum wage significantly affects the distribution of earnings, particularly when the increases are large, or the wage floor is high relative to median earnings. Except for the late 1990s, when minimum wage increases were minimal, the density mass decreased around the initial value of the wage floor. It rose around the revised one, with the changes outweighing those occurring elsewhere in the distribution.

Understanding the impact of minimum wages on poverty necessitates comprehensively comprehending their effects at various points along with the wage distribution. This issue can influence how policymakers determine the minimum wage and who is eligible for it. For instance, when minimum wages are low relative to average wages (as in Brazil and Mexico), wages at the bottom of the wage distribution tend to increase. When minimum wages are high relative to average wages, as in Colombia and Honduras, they raise wages in the middle of the wage distribution but not at the bottom. In this instance, only those whose salaries are above the national median will be affected by minimum wage increases (since those earning less than the minimum wage are not directly affected by minimum wages). Consequently, the answer to whether the minimum wage can reduce poverty and inequality in developing nations is "yes."

Findings indicated that the relationship between the occurrence of poverty and the minimum wage is highly inelastic; the policy instrument requires continuous reinforcement; it is subject to diminishing returns; and it is not an effective strategy for combating extreme poverty (Sotomayor, 2021).

Minimum wages are unlikely to apply to higher-skilled workers when skill levels vary. Employers will shift away from less-skilled workers and toward more-skilled workers after a minimum wage increase. Even if the dis-employment effect among the least-skilled workers is significant, the employment declines may not appear noteworthy. This is crucial from a policy standpoint. The minimum wage is intended to assist workers with limited skills. The policy is less likely to achieve its objective if their employment declines significantly and they are laid off, resulting in displacement from their current job or difficulty finding a new job. Substitution of low-skilled and high-skilled labour may lead to wage increases for workers earning above the minimum wage. If the minimum wage is used as a benchmark, a minimum wage increase can shift the entire distribution (Perez, 2020). Furthermore, the potential for minimum wage policy to provide higher labour income for low-paid workers, along with the associated reduced reliance on welfare benefits and enhanced perception of social fairness, should be weighed against the potential costs of minimum wage increases, reduced employment, and higher prices.

In general, migrants with higher levels of education are more likely to benefit from minimum wage increases. This result is consistent with the findings of Mwangi et al. (2017). They discovered that the minimum wage harms low-skilled workers (defined as those with a secondary school education or less) but has no effect on employment for more educated workers. They argued that lowering the minimum wage for unskilled formal labourers can reduce unemployment in the short term and that the labour market adjustment process frequently entails rural-to-urban migration and formal-informal labour supply adjustments. Employers may comply with minimum wage standards and increase monthly, daily, and hourly wages while offsetting these increases in other ways, such as by increasing working hours, decreasing allowances, or eliminating other social benefits.

5. CONCLUSION

This systematic review highlights the impact of minimum wage on labour market institutions in developing countries. Increases in the statutory minimum wage in developing nations are intended to increase the income of low-wage workers, reduce in-work poverty, and boost labour force participation. Concerns exist, however, that significant increases in the minimum wage will reduce employment, particularly in nations where low labour costs are essential for competitiveness. Notably, whether the minimum wage is too high or too low is an empirical question, as economic theory offers little guidance regarding the optimal minimum wage level. Based on the systematic reviews conducted, four main themes, namely policymaker, firm management, reduce poverty, and low-wage worker, were identified, and their impact was extended to sixteen subthemes. The review offers several suggestions for future research. First, more qualitative studies are required because they provide in-depth analysis and explanations of the perspective of the minimum wage and labour market. Second, a specific and standardised method for conducting systematic reviews in the context of minimum wage research synthesis must be determined. Finally, future research should incorporate additional search techniques such as citation tracking, reference searching, and expert contact.

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AUTHOR CONTRIBUTION STATEMENT

NSAMI wrote all the sections that constitute the entire article: i.e., Introduction, Methodology, Results, Discussion, Conclusion, and References. SM conceived the study, coordinated it, and helped draft the manuscript. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that they have no conflict of interest.

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Development of Mathematical Thinking Test: Content Validity Process

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ABSTRACT

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Validity is the extent to which an instrument measures what it is to measure. The instrument's validity is assessed by confirming the instrument's capability to measure the intended measurement. Content validity, face validity, construct validity, and criterion validity are the four forms of validity that are often discussed. Content validity is the degree to which a measurement tool reflects the measured content, which will justify the tool's validity. The importance of content validity in the instrument has made it an essential step in instrument development. Content validity is a vital criterion in designing and ensuring instrument development's success. Since content validity is essential in ensuring overall validity, content validation should be carried out in a structured manner based on evidence and best practice. This paper outlines a methodical strategy and a detailed content validation process for developing a mathematical thinking test. Seven evaluators were selected to review two sets of the mathematical thinking test. Three content validity measurements are applied to assess the items' validity in the tests: content validity index (CVI), kappa statistic and content validity ratio (CVR). Based on the results, the item content validity index (I-CVI) ranged from 0.857 to 1, and the scale content validity index (S-CVI/Ave) was 0.957. The Kappa statistics were also excellent since items ranged from 0.849 to 1.000. Content validity ratio (CVR) scores revealed that all items are the utmost critical by the content experts. Findings of the content validity study showed that all items in both mathematical thinking tests were deemed appropriate for assessing students' mathematical thinking.

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1. INTRODUCTION

Various evaluation instruments and methods are available to test students' learning of mathematics in today's curriculum reformation (Hatfield et al., 2003). Assessment plays a role as a tool to reveal all the potential possessed by students (Sabri et al., 2019). A vital factor of a successful curriculum is based on the assessment (Drijvers et al., 2019). Standard student assessment methods were more concerned with correct or incorrect scores than with students' mathematical understanding (Rosli et al., 2013; Berenson & Carter, 1995). Multiple-choice, true or false, or recall questions, ironically used to measure the correctness of a student's knowledge base, were the traditional mathematics questions in examinations, primarily used to examine the accuracy of a student's knowledge base (Watt, 2005). According to Lake (2015), these questions are notoriously unreliable for student assessment but used outside of an exam context. Consequently, many students memorised the procedure and neglected an in-depth understanding of the mathematical concepts and thinking processes when solving mathematics problems. Worrying trends proven among current students determine over-reliance on algorithms and procedures. This phenomenon would discourage learners' intuitive knowledge in making sense of mathematics (Singh et al., 2021; Singh et al., 2016). The ideal assessment should make the students reflect on their mathematical ideas and formulate ideas by assimilating their prior knowledge during involvement with the evaluation (Van de Walle et al., 2009). Students will actively engage in all mathematical standards processes while solving practical problems. They will create and reconstruct their knowledge through problem-solving, reasoning, communication, connections and representation (Van de Walle et al., 2009; NCTM, 2000).

To address this issue, there should be an instrument that can assess students' mathematical thinking. Mathematical thinking is beyond computational skills. It is the underpinning, fundamental conceptual thinking ability and how it relates to the real world. It relates to logical, analytic thinking and quantitative reasoning (Devlin, 2012). Therefore, the instrument for assessing students' mathematical thinking must emphasise procedural knowledge and include a variety of mathematical processes when solving tasks or problems. In relation to this, this study proposes constructing a mathematical thinking test instrument which can assess the student's ability in mathematical thinking. The validity processes are conducted to ensure the proposed instruments are relevant as assessment tools to measure students' ability in mathematical thinking.

Validity is the vital process that refers to the extent to which the instrument measures what it is designed to measure. Validity is a necessary procedure that relates to how well an instrument measures what it is supposed to measure. Validity is the correlation value between measurement and the actual value of a variable. If a size accurately reflects the variable's actual value, the correlation value will be high, and the research will have high validity (Chua, 2012). There are several different types of validity, such as face validity, content validity, criterion validity, construct validity, internal validity and external validity. Content validity is the degree to which a measurement tool accurately captures the construct being assessed, and it is seen as crucial proof that a measurement tool is legitimate (Yusoff, 2019). In contrast to other types of validity, content validity refers to test-based validity rather than score-based validity. It outlines the content requirements for the test and has nothing to do with the scores that were attained using that construct (Almanasreh et al., 2019). Content validity is defined as the degree to which elements of an assessment instrument are applicable to and reflective of the targeted construct for a given assessment purpose (Cook & Beckman, 2006; Haynes et al., 1995). This procedure

entails a group of subject matter experts weighing in on the significance of various items inside an instrument (Ayre & Scally, 2014).

The development of the instrument itself begins the process of content validity. This process involves two phases which are instrument development and judgment. Throughout the instrumentation process, the two phases of procedures ensure that content validity is determined and quantified. This article attempts to assess the content validity of the proposed items consisting of the instrumentations. The context of mathematical thinking in this study refers to students' ability (cognitive) to solve non-routine problems. This article divides the two phases of the validation process (development and judgment) into five main steps. Two sets of mathematical thinking tests have been developed and proposed for the validation process. The construct items are generated through various sources and literature. The content validity of the generated items is next conducted with the aid of seven topic experts. The content validity index (CVI), Kappa statistics, and the content validity ratio (CVR; Lawshe test) quantify content validity. Therefore, the objective of the paper is to develop and evaluate the content validity of mathematical thinking tests using the Content Validity Index (CVI) and Kappa coefficient and Content Validity Ratio (CVR) for the two sets of mathematical thinking tests. This paper will describe in detail the best practice to quantify the content validity of an assessment tool using CVI, Kappa coefficient and CVR.

2. CONTENT VALIDATION PROCEDURE

The following are the five steps of content validation applied in this study:

- a) Creating content validation form
- b) Choosing expert review panels
- c) Conducting content validation
- d) Reviewing and Scoring Items
- e) Calculating content validity

2.1 Step 1: Creating Content Validation Form

The first step of content validation is preparing a content validation form. The role of this form is to ensure that the review panel of experts will have clear expectations and understanding of the area to measure. Due to that, detailed descriptions regarding the items involved and what to measure are explained in the initial stage of the form (Figure 1). The experts also are provided with the definition of the topics and areas covered to facilitate them in the scoring process (see Figure 2 for an example).

VALIDATION OF MATHEMATICAL THINKING TESTS: A Content Validity	
Dear Experts,	
Background Information:	
<p>The purpose of this study is to investigate the effects of the problem-solving approach on the development of students' mathematical thinking. The context of mathematical thinking in this study refers to students' ability (cognitive) in mathematical thinking before (pre) and after (post) the intervention of the problem-solving approach. The instrument of mathematical thinking pre-post tests will be used to assess students' ability in mathematical thinking before and after the intervention process. Mathematical Thinking Test will be used to assess the effect of problem-solving approach (intervention) on participants' mathematical thinking ability. The first set of test (pre-test) will be conducted at the beginning of the study and second set (post-test), after ten weeks of problem-solving approach intervention. The duration of each test (pre-test and post-test) is 60 minutes (1 hour).</p>	
Participants:	
<p>Thirty first-year undergraduate students from B. Sc. Mathematic Education program will participate in this study. The test is expected to be conducted at the end of March and early June 2021.</p>	

Figure 1 An example of an overall description of the items in the content validation form to the experts

Section B: Evaluation of the Mathematical Thinking Pre-Test							
This is an evaluation form to determine how valid the pre-test of students' mathematical thinking is in solving non-routine problems. Please read through the test items (Appendix I) carefully before rating (✓) the items below.							
Rating Scale:							
1	:	No relevance at all					
2	:	The item needs some revision					
3	:	Relevant but needs minor revision					
4	:	Very relevant					
a) Item Evaluation							
Item	Topic	Solution (Heuristic Suggestion)	Rating				Comments
			1	2	3	4	
1	Numbers & Arithmetic	Pathway Heuristics (Working backwards)					
2	Numbers & Arithmetic	Simplification Heuristics (Simplify the problem)					
3	Number & Arithmetic	Generic Heuristics (Make a systematic list)					

Figure 2 An example of the content validation form layout where items represent (measure) the domain

2.2 Step 2: Choosing Expert Review Panels

Individuals who are chosen to evaluate and criticise an evaluation method are typically chosen based on their knowledge of the subject under investigation (Yusoff, 2019). Considering this factor, the reviewers are selected based on their expertise and experience in mathematical

thinking, mathematics education and problem-solving. In content validity determination, determining the number of experts needed has always been somewhat arbitrary. The number of experts is often determined by how many open and agreeable people the instrument's creator or user may find (Lynn, 1986). Although this practice is widespread, specific guidelines should be considered when selecting experts for content validity determination. Lynn (1986) suggested having a minimum of five experts based on past studies as they would be at least able to provide a sufficient level of control for chance agreement. However, researchers suggested there should be at least six content-validation experts and ideally not more than ten (Davis, 1992; Polit et al., 2006; Lynn, 1986). Therefore, considering this recommendation, this study has used seven experts as reviewers. Table 1 shows the position and background of the selected experts.

Table 1 List of Expert

No	Position	Country
1	Associate Professor	Malaysia
2	Associate Professor	Malaysia
3	Senior Lecturer	United Kingdom
4	Associate Professor	Malaysia
5	Professor	Indonesia
6	Senior Lecturer	Malaysia
7	Senior Lecturer	Australia

2.3 Step 3: Conducting Content Validation

The content validation is conducted non-face-to-face. An online content validation form is sent to the experts, and a clear description (Figure 1) and instruction (Figure 2) are provided to facilitate the content validation process (Step 4). The response rate and time might be challenging due to difficulty in getting a response on time and the risk of not getting a response from the experts.

2.4 Step 4: Reviewing and Scoring Items

In this stage, experts are required to objectively analyse the item at a point before assigning a score to each one. Experts are encouraged to submit written feedback or suggestions to enhance the items' relevance in assessing students' mathematical thinking. All suggestions are taken into account when refining the items.

Upon completion of reviewing the items, all experts are requested to provide a score on each item independently based on the relevant scale, which is promoted by Davis (1992) and appears to be frequently employed: 1- not relevant at all; 2-somewhat relevant (the item needs some revision); 3-quite relevant (needs minor revision); and 4-very relevant. The experts must submit their responses to the researchers once they have completed the scores for all items. The reminder notification was sent to the experts if they took a long time to review the items.

2.5 Step 5: Calculating the Content Validity

The content validity index (CVI), Kappa statistics, and content validity ratio (CVR) were used to calculate the content validity.

2.5.1 Calculating Content Validity Index and Kappa

There are two forms of determining CVI for the item (I-CVI) and CVI for scale (S-CVI). I-CVI is the proportion of content experts giving the item a relevant or very relevant rating. The I-CVI is determined by dividing the number of experts who gave a “3” or “4” rating by the total number of experts, yielding the percentage of experts who agreed on the item's importance. Based on the expert rate, the score of 3 or 4 is given a new score of 1, which indicated relevance, while scores of 1 and 2 were categorised as irrelevant items and given a new score of 0. The S-CVI is the "proportion of items rated as quite relevant or extremely relevant by raters concerned" (Waltz, 2005). Two methods of assessing the value of S-CVI are the average of I-CVI scores for all items on the scale (S-CVI/Ave) and the proportion of items on the scale that are rated as "3-quite relevant" or "4-very relevant" by all experts (S-CVI/UA). The average of the I-CVI scores for all items on the scale, or the average proportion relevance determined by all experts, is known as S-CVI/Ave. In contrast, S-CVI/UA is defined as the per cent of items on the scale that all experts rate as 3 or 4 on the relevant scale. When all experts agreed on the item, it received a Universal Agreement (UA) score of 1; otherwise, it received a score of 0. The formulas of CVI indices are illustrated in Eq. 1, Eq.2 and Eq 3.

$$I - CVI = \frac{\text{Agreed item (score "3" or "4")}}{\text{Number of expert}} \quad (1)$$

$$S - CVI / Ave = \frac{\text{Sum of I - CVI}}{\text{Number of Items}} \quad OR$$

$$S - CVI / Ave = \frac{\text{Sum of proportion relevance rating}}{\text{Number of experts}} \quad (2)$$

$$S - SVI / UA = \frac{\text{Sum of UA scores}}{\text{Number of items}} \quad (3)$$

Even though many researchers utilise CVI to measure content validity, it still has limitations. CVI does not consider the risk of exaggerated values because of the chance agreement. As a result, using both CVI and Kappa statistics to determine the level of agreement between content experts could provide quantifiable procedures (Zamanzadeh et al., 2017; Brennan & Hays, 1992). The Kappa statistic is an inter-rater agreement consensus index that is used in conjunction with CVI to ensure that expert agreement is not due to chance. The value of the Kappa statistic is determined based on Eq. (4) and Eq. (5).

$$P_c = \left[\frac{N!}{A!(N-A)!} \right] \times 0.5^N \quad (4)$$

P_c = Probability of chance agreement

N = Number of experts

A = Number of expert who agreed

$$K = \frac{(I - CVI) - P_c}{1 - P_c} \quad (5)$$

2.5.2 Calculating Content Validity Ratio

The CVR method represents the value of the proportional level of expert agreement in rating an item as essential (Lawshe, 1975). CVR is computed using Lawshe Test. CVR's approach is to uphold whether an item is required to operate a construct in a set of items. The item was rated "1" as essential and "0" as not essential. The value of CVR is determined by using Eq. (6). The individual value of CVR is compared to the CVR critical table proposed by Ayre and Scally (2014) to determine the importance of each item in the instruments.

$$CVR = \frac{\left(N_e - \frac{N}{2}\right)}{\frac{N}{2}} \quad (6)$$

N_e = Number of expert indicating "essential"

N = Total number of expert

3.0 FINDINGS

The key findings from both mathematical thinking tests (Set 1 and Set 2) were represented in terms of analysis content validity index (CVI), Kappa Coefficient and content validity ratio (CVR).

3.1 Determining Content Validity Index and Kappa Coefficient

Researchers commonly compute two types of CVIs (Lynn, 1986). The content validity of individual items (I-CVI) is the first type, while the content validity of the total scale is the second (S-CVI). Based on the value of I-CVI, the researchers have determined the score of the Kappa coefficient. Tables 2 and 3 indicate the CVI and Kappa coefficient evaluation for Mathematical Thinking Tests. The values of I-CVI for all items in both tests ranged from 0.875 to 1.000 and are classified as appropriate to assess students' mathematical thinking. Based on the assessments, the overall S-CVI for the 10-item scale was 0.957, indicating that the items had strong content validity for evaluating students' mathematical thinking. Apart from assessing the elimination of the items using CVI, the Kappa coefficient was used to evaluate all of the items. The findings (refer to Tables 2 and 3) revealed that all items are considered excellent (Polit & Beck, 2006; Zamanzadeh et al., 2014), with the scores of the Kappa coefficient ranging from 0.849 to 1.000.

Table 2 The Relevance Ratings on the Item by Experts for Mathematical Thinking Test 1 (CVI)

Item	E 1	E 2	E 3	E 4	E 5	E 6	E 7	Expert in Agreement	I-CVI	UA	Pc	Kappa
Item 1	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 2	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 3	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 4	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 5	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 6	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 7	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 8	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 9	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 10	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Proportion relevance	1	1	1	0.7	1	1	1	S-CVI/Ave (Method 1)	0.957	0.7		

Table 3 The Relevance Ratings on the Item by Experts for Mathematical Thinking Test 2 (CVI)

Item	E 1	E 2	E 3	E 4	E 5	E 6	E 7	Expert in Agreement	I-CVI	UA	Pc	Kappa
Item 1	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 2	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 3	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 4	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 5	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 6	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 7	1	1	1	0	1	1	1	6	0.857	0	0.0547	0.849
Item 8	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 9	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Item 10	1	1	1	1	1	1	1	7	1.000	1	0.0078	1.000
Proportion relevance	1	1	1	0.7	1	1	1	S-CVI/Ave (Method 1)	0.957	0.7		

3.2 Determining Content Validity Ratio

Table 4 and 5 show the evaluation of all experts to the items. Based on the calculation of CVR values, all things considered critical must be incorporated into the mathematical thinking test. All items are indicated range of 0.714 to 1.000.

Table 4 The Relevance Ratings on the Item by Experts for Mathematical Thinking Test 1 (CVR)

Item	E 1	E 2	E 3	E 4	E 5	E 6	E 7	Ne	CVR
Item 1	1	1	1	1	1	1	1	7	1.000
Item 2	1	1	1	1	1	1	1	7	1.000
Item 3	1	1	1	1	1	1	1	7	1.000
Item 4	1	1	1	0	1	1	1	6	0.714
Item 5	1	1	1	0	1	1	1	6	0.714
Item 6	1	1	1	1	1	1	1	7	1.000
Item 7	1	1	1	0	1	1	1	6	0.714
Item 8	1	1	1	1	1	1	1	7	1.000
Item 9	1	1	1	1	1	1	1	7	1.000
Item 10	1	1	1	1	1	1	1	7	1.000

Table 5 The Relevance Ratings on the Item by Experts for Mathematical Thinking Test 2 (CVR)

Item	E 1	E 2	E 3	E 4	E 5	E 6	E 7	Ne	CVR
Item 1	1	1	1	1	1	1	1	7	1.000
Item 2	1	1	1	1	1	1	1	7	1.000
Item 3	1	1	1	1	1	1	1	7	1.000
Item 4	1	1	1	0	1	1	1	6	0.714
Item 5	1	1	1	0	1	1	1	6	0.714
Item 6	1	1	1	1	1	1	1	7	1.000
Item 7	1	1	1	0	1	1	1	6	0.714
Item 8	1	1	1	1	1	1	1	7	1.000
Item 9	1	1	1	1	1	1	1	7	1.000
Item 10	1	1	1	1	1	1	1	7	1.000

4. DISCUSSION AND CONCLUSION

Content validity is a necessary next component of the research process to validate the research instrument. In this context, the instrument is a mathematical thinking test. Content validity of the instrument is a crucial way to pinpoint problem areas, reduce language error, determine the appropriateness aspect to be measured, and determine whether respondents are interpreting questions correctly by ensuring that the order of questions is not influencing the way a respondent answers and ensuring that the time given is suitable. Even though it is almost impossible to design a perfect instrument, many considerations still need to be highlighted to develop a good instrument.

Based on the results of I-CVI, each item in both tests is categorised as an appropriate item with scores between 0.857 to 1.000. Based on recommendations by Lynn (1986) and Polit and Beck (2006), with the number of experts from 6 to 8 people, the score of CVI must be at least 0.83. Considering the overall content validity of the item, the values of S-CVI/Ave also show very high validity with a score of 0.957. Past scholars stated that the value of S-CVI must be 0.8 or higher as an indication of acceptable validity (Almanasreh et al., 2019; Zamanzadeh et al., 2014;

Davis, 1992; Grant & Davis, 1997; Polit & Beck, 2004). The content validity of the instruments is adequate, according to the S-CVI/Ave. The value of S-CVI for these instruments also could be considered at a congruity level (Waltz et al., 2005). According to Almanasreh et al. (2019), Polit and Beck (2006) and Zamanzadeh et al. (2014), values over 0.74, between 0.6 and 0.74, and between 0.4 and 0.59 are classified as excellent, good, and fair, respectively. Based on these categories, all items in these instruments have achieved excellent levels. High CVR scores suggest that members agree on the importance of a particular item in the instrument (Ayre & Scally, 2014). In this article, the CVR value for each item ranged from 0.714 to 1.000. These values reflected the high percentage of panellists rating an item as “essential” for the instruments.

In conclusion, the quantification of content validity using CVI (I-CVI & S-CVI), Kappa coefficient, and CVR revealed that the items in the instruments had excellent content validity. All the constructed items are maintained as they have a relatively high agreement value among experts. A future study can verify that the instrument's reliability is examined to improve the assessment instrument's application.

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NAMN wrote the conceptualization and produced the original draft. PS and GN reviewed and edited the writing. NSR wrote the methodology section and contributed to the visualization. AHMH proofread and made changes to the writing drafts. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

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The Potential of Traditional Malay Woodcarving as a Cultural Heritage Tourism Product in Kuala Terengganu

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ABSTRACT

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Cultural heritage includes both tangible and intangible assets. However, the growth of cultural heritage in the tourism industry has been focused on tangible assets. Furthermore, as an element in traditional craftsmanship, the craft is considered an intangible cultural heritage that has become a tourism product in a specific tourism area. This study was conducted to determine the potential of woodcarving as a cultural heritage tourism product in Kuala Terengganu. In this study, five respondents were selected using purposive sampling as an approach for data collection. According to the findings, Malay traditional craftsmanship has the potential to be marketed as a tourism product. In any case, several factors must be improved, such as i) the attraction, ii) destination facilities, iii) transportation, and iv) accessibility to the site to increase the viability of Malay traditional handicrafts as a popular tourism product in Kuala Terengganu. In conclusion, it will be advantageous to Malaysia's and other nations' tourism industries since traditional craftsmanship will be viewed as a new commodity in tourism. Furthermore, it can help preserve craftsmanship skills and knowledge. It can also encourage the next generation to learn about and respect this tradition.

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1. INTRODUCTION

Wood carvings are the key determinant of the architectural value of a structure. There are several typical wooden houses around the world, but the features differentiate them from one another. Enlightening the processes of making art, in conjunction with the craft of wood carving as an attraction, may improve the tourist experience when travelling around the destination (Shackleford 2020). It can be viewed through the expertise and knowledge of traditional craftsmen who provide the tourist with a new experience. The unique experience ensures that tourists can see and appreciate the processes involved in making a craft and buy the crafts directly from the craftsmen as souvenirs (Fanchette & Stedman, 2018). Research conducted by Fu et al. (2014) has shown that few places have adopted the concept to demonstrate to visitors and local people the potential and knowledge of traditional craftsmanship.

In Malaysia, under the Ministry of Tourism, Arts and Culture, the Malaysian Handicraft Development Corporation (MHDC) is the responsible agency that ensures the survival of traditional craftsmanship. This organisation supports the conventional practices of craftsmanship through shows and museums. This is done via presenting, selling the finished goods, and showcasing craftsmanship skills and expertise. Aesthetic value and its work through the use of natural resources are the basis of the quality of Malay traditional craftsmanship such as *songket* weaving, *batik* painting, *rombong* weaving, wood carving, blacksmith, and the traditional craftsmanship among Malaysians can be seen as tourist souvenirs (Sait et al., 2018).

In traditional Malay culture, Malay woodcarving has been described as one of the most significant elements. The art and cultural values associated with period motif carvings, ownership status, skill builders, and part placement carved in the building are Malay woodcarving (Silah et al., 2021). The concepts of visual organisation were used to create a relationship between the form, meaning, motive, and culture of elements. Malay culture has distinctive ideals that distinguish it from conventional carving elsewhere. The pattern can be classified into different types and become patterns. The pattern is influenced by nature patterns such as floral motifs, leaves, and vines in early Malay carvings like *Awan Larat*, and it has a mixed wood carving style and identity (Noor & Khoo 2012). Frequent mixing of cultures outside brings changes to the culture of people. The same situation occurred in Malay wood carvings, which also developed along with the changing times. Most wooden carvings are simply placed in buildings that are important only to produce fine wood carving and cost a great deal of value (Kamarudin, 2011).

It is essential to explain what culture is before looking into the focus of this study. There are several viewpoints on this terminology, and there is no clear concept to describe culture universally. In addition, previous studies only focused on the woodcarving elements in Malay architecture, and there was a lack of studies about the tourism products involving Malay woodcarving. Thus, the purpose of the study is to determine the potential of wood carving as a cultural heritage tourism product in Kuala Terengganu. The study focuses on wood carving because of its valuable aspects (the tangible and intangible cultural heritage) that has the potential as a tourism heritage product.

2. LITERATURE REVIEW

Wood carvings are under traditional craftsmanship. In the context of traditional craftsmanship, the elements identified are based on definitions proposed by past scholars. The components are craft designer, skill and experience, craft product, and apprentice (Cominelli, 2011). Cominelli (2011) further mentioned that the tangible and intangible forms of heritage are included in the

framework of traditional craftsmanship (refer to Figure 1). The tangible form, Cominelli explained, is the infrastructure, equipment, and raw materials used to create a craft. Meanwhile, the intangible is the craftsman's background, knowledge, and experience in craftsmanship.

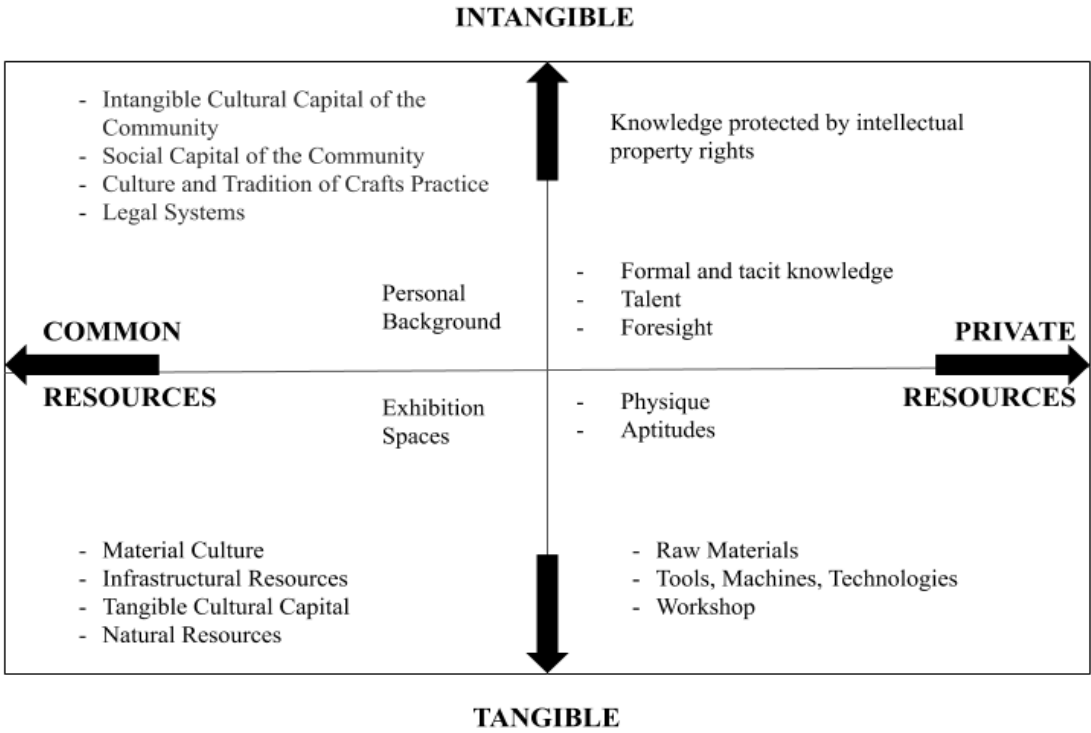


Figure 1 The Structure of Traditional Craftsmanship
Source: Cominelli (2011)

Researchers also stated that two types of resources, either common or private, are involved in the structure of craftsmen. The common tools are the craftsman's background, the culture, and the tradition of crafts. On the other hand, the skills and experience of craftsmen are considered private resources. However, the potential for wood carving should not be a private resource to safeguard traditional craftsmanship. (Lixinski, 2013) emphasised that expertise in craftsmen should be shared with the young generations interested in this area. Traditional craftsmanship's skill and knowledge must be documented to preserve the tradition.

The four elements of traditional craftsmanship, specifically wood carving, which includes craftsman, skill and knowledge, craft product, and apprentice, were applied in this research. These four components play a significant role in ensuring that wood carving can be continued until the last human generation. The authenticity of traditional wood carving will slowly decline without the wood carver passing on the skill and knowledge to any apprentice (Sandgruber et al., 2019). In addition, a fusion of tangible and intangible cultural heritage is a component of wood carving. All components are common resources to preserve wood carving and transform it into a tourism product.

Kuala Terengganu has been selected as a study area for this research. In Kuala Terengganu, site observation on the availability of wood carvings has been made in Bukit Losong and Pulau Duyong because these regions are tourist hot spot for its cultural heritage diversity. In Bukit Losong, there is the Terengganu state museum which is one of the iconic traditional Terengganu

architecture buildings that still survives until today. Kampung Budaya is also located in the Terengganu State Museum area. Kampung Budaya is one of the state government's initiatives to preserve Terengganu's heritage. The concept is similar to Terrapuri Heritage Village where old buildings around Terengganu were moved from its original place to a new location. In Kampung Budaya, there is a section for wood carvers to demonstrate their skills to tourists and visitors. Some of the woodcarvers are not from Kuala Terengganu. Most of them are from Desa Ukiran Kayu in Besut but because of Kampung Budaya, the government asked them to join hands with Kuala Terengganu's woodcarvers. Since this research also visited woodcarvers' workshop, this research also included Desa Ukiran Kayu even though the location of Desa Ukiran Kayu is in Besut.

3. METHODOLOGY

Researchers conducted preliminary observation to survey the current condition of the study area to obtain a clear overview of Malay wood carving in Kuala Terengganu. The observation was made by touring Kuala Terengganu's popular tourist heritage destination. Two sites were selected: Bukit Losong and Pulau Duyong, because of their strong history and many woodcarving workshops around these areas. Next, the data collection method was through interviews with selected informants and photographic documentation. The data is documented via a scoring table.

3.1 Face-to-Face Interview

Non-probability sampling technique or, more specifically, convenience sampling was used in this study since the population is unknown. Only five woodcarvers were chosen for this study. The researchers interviewed four traditional craftsmen in Bukit Losong, Kuala Terengganu, on March 31, 2021. They were chosen randomly based on their willingness to participate in the interview session. The conversation takes 30 minutes per informant. Later, on the same day, the researcher interviewed one respondent in Pulau Duyong. This is because only one workshop was opened during the site visit, and time constraints did not allow the researcher to explore other workshops in Pulau Duyong later.

In this study, informants that were selected were approached through phone calls. Before asking about their willingness to have an interview session, a brief information about the study was given. A series of appointments were set up one week before the field study. The conversation with the informants started by highlighting the study's purpose. The interview sessions were recorded using a voice recorder. Also, the researcher took notes while listening to informants. During the interview session, the probing technique was applied. This was to encourage the informants to give a more in-depth explanation, resulting in the richness of the data.

3.2 Direct Observation

The observation was done in two locations, Kampung Budaya in Bukit Losong and Desa Ukiran Kayu. Observation in Kampung Budaya was done the same day as the interview session on March 31, 2021. Meanwhile, observation at Desa Ukiran Kayu was done on April 14, 2021. Desa Ukiran Kayu was chosen because these are the workshops of Informant 1, Informant 2, and Informant 3. As suggested Okonkwo (2012), data collected via observation is crucial to understanding the social life of craftsmen and the process of wood carving. For this study, direct observation was performed on the craftsmen's processes, skills, and final product. All respondents offered to demonstrate their skills in craftsmanship. Figure 2 shows the process of making wooden coasters.



Figure 2 The Process of Making Coasters at Desa Ukiran Kayu

3.3 Photographic Documentation

In this study, photography was done during site visits on March 31, 2021, at Kampung Budaya and April 14, 2021, at Desa Ukiran Kayu. The photos are used as evidence of information given by the traditional craftsmen on the processes, materials, and craft.



Figure 3 The Workshop and Souvenir Shop at Desa Ukiran Kayu

3.2 Data Analysis and Techniques Using the Scoring System

The scoring system refers to the data analysis used to evaluate aspects based on site observations. The basis of this system was inspired by Ho (2006). She has evaluated heritage attractions in Hong Kong. However, the researcher's interpretation of the data is based on observation and the researcher's point of view. The scoring method was modified to eliminate observational bias in this study. To prevent bias, the researcher created sub-items connected to the case study. The first signal of appeal, for example, is cultural significance. The craftsman, the craft, ability in craftsmanship, and transmission of skill and knowledge of traditional craftsmanship are the four elements of cultural significance that are evaluated. Each item has a distinct mark that is decided by the sub-items that have been created. For instance, if the craftsman has performed internationally, the given mark is three. At the end of this analysis,

the overall score perceived by each respondent indicated their potential as a tourism product in Kuala Terengganu. A low potential is between 1 and 12, a medium potential is between 13 and 25, and a high potential is between 26 and 37. Table 1 indicates the components of the scoring system used in this study.

Table 1 The Scoring System for Evaluation

Indicators	Aspects	Sub-Items	Total Mark	
Cultural Significance	Craftsman	Local	1	
		National	2	
		International	3	
	Crafts	Not Heritage	1	
		Heritage	2	
	Ability in craftsmanship	Normal Skill	Normal Skill	1
			Extraordinary	2
		Transmission of skill and knowledge	Others	1
			Through Generation	2
			Size and Scale of Products	Size of crafts (Influence the tourist possibility to purchase)
Local and Global Tourists	2			
Tourists could gain experience	See	1		
	See and Learn	2		
	See, Learn and Participate	3		
Availability of nearby attraction	1-3	1		
	3 and Above	2		
	Possibility to bundle with attraction nearby	No		0
		Yes		1
Carrying Capacity	Size of working place	Small		1
		Medium	2	
		Large	3	
	Possibility to expand the working place	No	1	
		Yes	2	
		Multiple Use	Availability of places or tourists to see demonstrations and purchase crafts	Workshop
Workshop and Gallery	2			

4. FINDINGS AND ANALYSIS

Based on the analysis of the qualitative data, the findings are divided into four indicators: (i) cultural significance, (ii) product size, scale, and experience, (iii) carrying capacity, and (iv) numerous applications. The following findings provide a detailed description of the four indicators analysed.

4.1 Cultural Significance

The cultural significance of a heritage product is a crucial consideration when determining its potential as a tourism product (Halim & Mat, 2010; Ho & McKercher, 2004; Ho, 2006; Io, 2011). For this study, cultural significance relates to the craftsman, craft, competence in craftsmanship, and the transmission of skill and knowledge in craftsmanship. Cultural importance received a total of 9 points.

The first is an assessment of the craftsman. The score will be assigned based on the craftsmen's quality of workmanship.

"I represented Malaysia in 2017. I brought lots of handicrafts and not only traditional ones but also some of our experimental products that my team and I have been working on in the past few years."
- Informant 1

"I have been to Indonesia many times already. The latest one in 2019. My team represents Malaysian wood carving there." - Informant 2

"I am quite lucky because a few months after I joined Desa Ukiran Kayu, there was an event in Kuala Lumpur. So, I have performed my skills on a national level last year. Even though there is a limitation in attendant, it's still a good experience for me" - Informant 3

"I have not participated in any events before." - Informant 4

"Yes, I've represented Malaysia many times already" - Informant 5

Based on the interviews, three respondents represented Malaysia at the international level: Informant 1, Informant 2, and Informant 5. Informant 3 has performed at the national level. However, Informant 4 has not participated since Informant 4's primary job is as a spokesperson rather than as a woodcarver.

The second aspect is craft because this study is based on things important to Malay culture. All respondents gave this survey full marks. The third item is on crafting ability, whether they have exceptional expertise. The score was assigned based on the attraction of the craft, whether it is attractive due to its commodification or simply a basic design. Two respondents, Informant 4 and Informant 5, have developed simple crafts that lack creativity and aesthetic appeal. Other respondents could create both conventional and modern styles.

However, according to the findings of this study, informants' commodification was done on purpose as part of a marketing plan to attract customers and provide solutions to various problems. The conventional appeal was retained in the context of input, output, and process. For example, Informant 1 created the coaster using a combination of wood and other material to create a new appeal to wood carving products. The concept was created as a remedy for a scarcity of raw resources, specifically high-quality wood, which is very expensive. Finally, there is the transmission of craftsmanship skills and knowledge. Those who gained from previous generations were seen to be genuine. In this study, two respondents, Informant 2 and Informant 5, learned their craft from their parents. Informant 5 has the most significant overall score for cultural significance.

"I learned the skills from my teachers, not from my parents." – Informant 1

"I learned the skills and techniques from my late uncle. He was a successful woodcarver in his time."
– Informant 2

"I learned here, in Desa Ukiran Kayu. My parents are not woodcarvers." – Informant 3

"I learn from my teacher. He was in his late 30s at that time." – Informant 4

"I learned from my dad. If he were still here, his age may be around 88 years old." - Informant 5

4.2 Size and Scale of Product

This indicator considers the craft and type of experience that tourists might provide. The first consideration is the size of the craft. The vessel size used in this study may influence the visitor experience. Many researchers, including Chang and Hung (2012), agreed that craft is perceived as a keepsake in tourist destinations. However, this study discovered that not all crafts are ideal as souvenirs, as tourists typically purchase them. The score is based on the probability of a tourist purchasing the craft. Only handicrafts produced by Informant 1, Informant 2, and Informant 3 are small and suitable to be purchased by both foreign and local tourists.

"My customers usually buy in bulk, especially keyrings as souvenirs." – Informant 1

"I produced a lot of handicrafts too, and the responses from visitors and tourists are overwhelming." – Informant 2

"I do not have any customers yet, but I do produce small-size handicrafts." – Informant 3

"I usually produce a medium size like congkak, large frame picture. It is quite heavy and big too."
– Informant 4

Crafts made by Informant 4 and Informant 5 are available for purchase by tourists with private vehicles. The majority of those are locals. This is because these crafts are medium and big, making them unsuitable for air travel. For example, Informant 5 has admitted that size is a problem.

"Not everyone is eager to buy my stuff. It is, as you can see, quite large. How can a tourist who travels by plane bring back this replica?" - Informant 5

Finally, some of Informant 4 and Informant 5 goods cannot be purchased by tourists since they are not souvenirs but rather symbolise the way of life of Kuala Terengganu people in the past, like old boats or part of Malay traditional houses. Figure 4 depicts several types of crafts made by respondents.

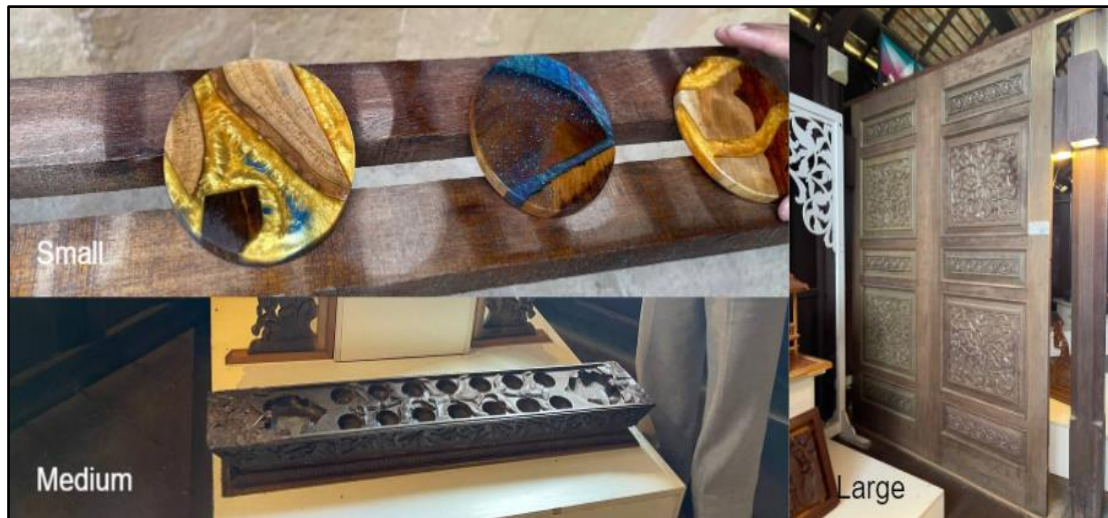


Figure 4 The Different Sizes of Crafts

The second component is the experience that a tourist may acquire. Based on the observation findings, all five respondents could provide tourists with the opportunity to witness and learn about the craft-making process. Nowadays, tourists do not only buy products and services, but tourists are also looking for new experiences, such as participating in tourism activities (Hsu, 2008). The perceived experience when travelling influences tourist satisfaction (Dalton, 2011). For this study, traditional handicraft provides a new experience by allowing tourists to participate in the activities. Traditional craftsmanship provided a unique experience for tourists by demonstrating skill and knowledge in workmanship. According to Chang et al. (2008) and Fu et al. (2014), the traditional craftsmanship demonstrated in the museum has educated people about the availability of valuable heritage while also providing tourists with the opportunity to see and participate in the craft-making processes.

The truth is that the proximity of neighbouring attractions impacts the tourist experience in a location (Ho, 2006). It suggests that tourists are more likely to visit that particular location since it offers a variety of sites to explore. This study looked at the availability of tourist attractions near respondents' workplaces. Based on direct observation, only two respondents' workshops were within 5 kilometres of a local attraction. Informant 4 and Informant 5 receive excellent scores since they are in Bukit Losong (Informant 4) and Pulau Duyong (Informant 5), which are close to numerous tourist sites. Pulau Duyong and Bukit Losong in Kuala Terengganu are tourism hubs because of the various attractions, including cultural and man-made attractions. Informants 1, 2, and 3 ranked second and third, respectively, since the sole attraction is the Tengku Long Palace, which is located opposite Desa Ukiran Kayu.

Finally, combining the historical attractions in Kuala Terengganu is possible. In this scenario, only two regions within 5 kilometres can be combined to discover neighbouring attractions. During early observations in Bukit Losong and Pulau Duyong, many attractions relating to Malay culture and history were found. These attractions can be integrated as a Malay Heritage Trail. The routes may include nine places with Malay cultural values (tangible and intangible Malay cultural heritage features) such as architecture, religious practices, traditional transportation, and traditional cuisine. Among the attractions is a replica of a traditional Malay house located at Kampung Budaya alongside Pulau Duyong. Figure 6 depicts a few attractions that might be integrated into a heritage trail.



Figure 6 Bundling Heritage Attractions as a Heritage Trail

4.3 Carrying Capacity

The carrying capacity of this study refers to the size of the informants' working spaces and plans to increase the area of handicrafts. It is significant because tourists will come to witness, study, and engage in traditional Malay handicrafts. First, consider the size of the work environment. It is divided into three sizes: small, medium, and large. The small size can accommodate up to five people, the medium size can fit six to fifteen people, and the big size can fit fifteen or more. Observation reveals that Informants 1 and 3 have large workshop sizes because Informants 1 and 3 use Desa Ukiran Kayu's Workshop 1. Meanwhile, Informant 2 uses Workshop 2, which is larger, but only six to fifteen people may use it simultaneously since Workshop 2 has a lot of large machinery that demands larger spaces. As a result, Informant 2's workshop is classified as medium-sized. Informant 5 also has a large workshop. Meanwhile, Informant 4 has a small workshop since Informant 4's main profession is a spokesman, and he only manufactures crafts when he receives orders from customers. As a result, Informants 1, 3, and 5 scored the highest mark for carrying capacity.

4.4 Multiple Uses

The site's availability for tourists to witness the demonstration and purchase the craft is referred to as the multiple uses in this study. Based on observations, three respondents, Informants 1, 2, and 5, have a workshop and a gallery, whereas the others do not. Informants with a workshop and a gallery can provide tourists with various activities. In short, each indicator contains a variety of factors that have been evaluated based on observations and conclusions from interviews with informants. The aspect of attractiveness received 23 points. Based on the analysis, the score range for each element is between 12 to 23. Overall, the highest grade received goes to Informant 5, with a score of 23. Informant 3 received the lowest score of 12. Table 2 shows the score perceived by the informants for attraction.

Table 2 The Score Perceived for Every Informant for Attraction

Indicators	Aspects	Total Mark	Respondents				
			R1	R2	R3	R4	R5
Cultural Significance	Craftsman	3	3	3	1	2	3
	Craft	2	2	2	2	2	2
	Ability in craftsmanship	2	1	2	1	1	2
	Transmission of skill and knowledge	2	1	2	1	1	2
Size and Scale	Size of crafts (Influence the tourist's possibility to purchase)	2	2	2	1	2	2
	Tourists could gain experience	3	3	3	2	3	3
	Availability of nearby attraction	2	1	1	1	2	2
	Possibility to bundle with attraction nearby	1	0	0	0	1	1
Carrying Capacity	Size of working place	3	3	2	3	1	3
	Possibility to expand the working place	2	1	2	1	2	2
	Multiple uses	1	0	1	0	0	1
Total Score		23	17	20	12	17	23

Note: (Blue: Highest Score; Red: Lowest Score)

5. CONCLUSION

Malay traditional craftsmanship has the potential to be marketed as a tourism product. Among the five informants, Informant 4 and Informant 5 are the strongest candidates because both received the highest points in the scoring system. There are three aspects of table scores that are produced as indicators which are (i) The attraction, (ii) destination facilities, and (iii) transportation and accessibility to the site. The highest points were drawn from the result based on the score table by Informant 4 and Informant 5, making them ideal for tourism since they are located near the existing tourist destination in Kuala Terengganu. The facilities of Informant 4 and Informant 5 are also compromised. The site is close to the city centre, so there are better amenities than others. Finally, Informant 4 and Informant 5 have also been assigned the best transport and access points, as they can be reached by road and water, depending on the route tourists prefer.

This evaluation was carried out to determine whether informants had a promising future as a tourism product. The evaluation was completed based on the topic of heritage converted into a tourism product. The historical product is unlikely to be popular enough to entice people to visit it. This is because the conversion of legacy into a tourism product is exclusively based on its cultural significance. This research presented a scoring system based on attraction, destination facilities, transportation and accessibility. Informant 1, Informant 2, and Informant 5 have excellent potential to be a tourism product in Kuala Terengganu based on on-site observation and interview results. It is worth noting that the tourist industry impacts the development of historical products in a destination. For example, tangible heritages do exceptionally well as a

tourism product. They are prominent tourist attractions that have been advertised as a commodity.

This study has been completed in light of the additional constraints that have been identified. First, because of the enhanced movement control order due to Covid-19, only five participants took part in this study. Thus, the results of the analysis might not be in-depth and representative of all wood carvers. For future research, a comparable topic can be expanded to a new edition, and each informant's sort of craft involving woodcarving can be studied in detail. The study's outcome will have more details and unambiguous results. In this study, face-to-face interviews with Malay traditional craftsmen were conducted. The information came from a single source only which is, Malay traditional craftsmen. It would be preferable if future research could take the form of a focus group discussion involving stakeholders such as local governments, producers, and middlemen. The research could compare and contrast perspectives on Malay traditional craftsmanship as a tourism product.

This study was able to increase understanding of traditional craftsmanship as a tourism product. It advances the literature by revealing the background of Malay traditional craftsmen as a case study. It has broadened the scope of difficulties in Malay traditional craftsmanship. Informants' feedback showed additional concerns threatening the preservation of Malay traditional craftsmanship. As a result of this research, a new heritage trail that may be exploited as a new tourism product in Bukit Losong. The study recommends a Malay heritage trail at Bukit Losong. This heritage can combine tangible and intangible components that may provide tourists with a range of information and the essence of Malay culture. To supplement the heritage trail, the Terengganu government can introduce homestay programmes. There are a few villages in Pulau Duyong and Bukit Losong that are suitable for homestays programmes. Especially in Pulau Duyong, there are still a lot of Malay traditional houses there.

It is suggested that a new local craft hub focusing on wood carving products should be developed. This helps woodcarvers to have a proper place to sell their products, but it's easier for visitors and tourists to buy wood carving products. The growth of the tourism industry in the handicraft industry can boost the nation's revenue. Other than that, adaptive reuse of the abandoned traditional houses especially in Pulau Duyong transformed into a museum, chalet or resource center. Terengganu has already done an excellent job with Terrapuri Heritage Village. Use that concept to preserve abandoned traditional houses in Pulau Duyong. From site observations, there are a few houses that were abandoned. Some of them have already been upgraded to museums. Too many museums in one place is not necessary. Since Kuala Terengganu lacks a workshop and showroom for wood carving products, these abandoned houses can be renovated to be woodcarving workshops.

In conclusion, this research has broadened the scope of difficulties in Malay traditional craftsmanship. Informant feedback showed additional concerns threatening the preservation of Malay traditional craftsmanship. The causes are modernity, globalisation, and a desire for profit rather than knowledge. The study advances the understanding of traditional craftsmanship as a tourism product. This study fills a need by revealing the background of Malay traditional craftsmen as a case study.

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AUTHOR CONTRIBUTION STATEMENT

WNWN and RRR wrote the introduction and literature review sections. WNWN and ANAA wrote the methodology section, collected data, and performed the data analysis using scoring system. WNWN and ANAA also wrote the data analysis, findings, and conclusion sections. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

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APPENDIX

Appendix 1. The Interview Questions

Topics and Questions		Probing Technique
Background of craftsman	Respondent profile <ul style="list-style-type: none"> ● Age ● Education ● Place of origin <ul style="list-style-type: none"> ● Experience in craftsmanship How did you get involved in this field? (craftsmanship)	<ul style="list-style-type: none"> ● Is craftsmanship your main source of income? (To identify whether he/she is a full-time or part-time craftsman) ● Are the skills and knowledge in craftsmanship coming from your family tradition? ● How many years have you been practising this activity?
Challenges as a craftsman	<ul style="list-style-type: none"> ● Have you faced any barriers since you started your career as a craftsman? 	<ul style="list-style-type: none"> ● Are you maintaining the traditional method or mixing it with the modern method? ● Do you have any child who has the ability in craftsmanship? ● Do you receive any incentives from the government or any other agencies? ● Is it easy to get the raw materials? ● What about the craft from neighbouring countries? ● Do you have any competitors?
Wood carving as a tourism product	<ul style="list-style-type: none"> ● Are you willing to entertain tourists if they want to see your skill and knowledge in craftsmanship? 	
Final remarks	<ul style="list-style-type: none"> ● What is your hope for the craftsmanship activity that you have participated in? 	

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Oral Presentations Difficulties and Its Causes: Preliminary Analysis of UiTM Kelantan Students

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ABSTRACT

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The ability to perform oral presentations is one of the skills that students need to acquire throughout their learning years. Doing English presentations is always challenging among students, particularly Malay students who use English as their second language. Previous studies highlighted that second language learner usually struggle to complete oral presentation tasks. This study aims to identify the difficulties faced when making oral presentations and the causes of difficulties encountered by 155 students at UiTM Kelantan Branch. A questionnaire consisting of the items on the difficulties faced during the oral presentation and their reasons was adapted from previous studies. The questionnaire was distributed to research participants who enrolled in courses that included oral presentation as the main form of assessment. Descriptive analysis was employed to fulfil the objectives of the study. Based on the results, the main difficulties faced by students during their oral presentations were forgetting what to say, making grammatical errors, and not being confident talking in public. In relation to this, the students faced these difficulties due to a lack of confidence and not having good voice qualities, such as being clear and loud enough to be heard when delivering a speech. The analysis of this study would enable the students to identify the problems faced during oral presentations, which could assist them in overcoming the issues, thus, preparing them well in oral presentation skills during the tertiary level of education before embarking into the workforce environment. On the part of instructors, they could set up adequate practice activities for students to have enough confidence before the actual presentation. Further studies are suggested to investigate the impact of practice in improving students' oral presentations.

1. INTRODUCTION

The ability to do an oral presentation is an essential skill taught and assessed at the tertiary level of education, which indicates the importance of oral presentation in developing students' communication and presentation skills. According to Widyastuti and Mahaputri (2015), a presentation is an activity in which someone shows, describes, or explains something to a group of people. Usually, this activity will involve a presenter presenting a topic of interest with or without visual aids (Ahmad & Lidadun, 2017). In other words, presentation skill means the art of getting the audience's attention and making them excited with ideas or the presenter's performance. Meanwhile, Yusoff (2010) defined students' communication competence as their ability to deliver a clear and convincing oral presentation to a specific audience. The target audience, in this case, would be their coursemates and language instructors. Nevertheless, this would not stop there as the target audience will grow more significant in their future career experience (Elliott & Higgins, 2005).

In addition, with the current wave of education where open distance learning (ODL) is a common practice, the world is currently represented by a world of smart presentation in every sector. Alshare and Hindi (2004) stated that presenting an oral presentation is quintessential in delivering positive learning experiences. Additionally, Farabi et al. (2017) posited that oral presentation allows students to develop real-world communication and leadership skills. Thus, equipping oneself with impressive oral presentation skills is highly valued to face the challenges in today's competitive world (Al Harun et al., 2016). Despite knowing the importance of mastering this skill before entering the working world, many students are still struggling with their difficulties in oral presentations (Le, 2021). As a result of not tackling these difficulties, students might end up being wrongly labelled as someone uneducated or poorly informed (Kho & Leong, 2015).

In the Malaysian context, students are exposed to learning English as a second language from primary to secondary school, which builds up to their tertiary level of education. This makes up for almost eleven years of having a formal education in the English language, but the anxiety of conducting an oral presentation in English is still deeply rooted in them (Kenayathulla et al., 2019). This could be due to the exam-oriented culture, which is greatly upheld in this country. Rashid (2011) explained that even after spending six years learning English in primary school, many students are still lacking in their vocabulary. This portrays the lopsided effect of this exam-oriented culture where students are taught the English language just to pass public examinations. As a result, students are seen as having the ability to understand English, and some are even very good at writing essays but not communicating the language (Ghezlou & Biria, 2017). This is also worsened by the limited chances for students to use English outside the classroom (Hashim & Md Yunus, 2018). A study carried out by Abdullah and Wong (2006) showed the same finding that the use of English is especially low among Malays. Students' exposure to English is limited since it is only bound to the classroom setting.

Apart from that, when students learn a language just to prepare them for examination, their development of basic language skills like oral presentation is neglected. In the absence of this skill, students will continue experiencing the feeling of anxiety whenever they are required to do an oral presentation. This anxious feeling while doing an oral presentation is also known as glossophobia, which means the fear of public speaking or speaking in general (Hancock et al., 2010). A field study by Merz et al. (2019) revealed that giving an oral presentation at the university signifies a potent stressor and tips for memory retrieval impairments. This is also in line with a survey of students from two UK universities where it was discovered that the highest number of students (80%) agreed that oral presentation is a source of social anxiety, which

impacts their learning and well-being (Russell & Topham, 2012). Yamashiro and McLaughlin (2001) asserted that higher anxiety levels would result in lower proficiency. Therefore, this could be one reason students do not perform their best in an oral presentation. In parallel, this study is investigated to identify students' difficulties (other than anxiety) when delivering an oral presentation and the causes of these difficulties. The findings from this study will help instructors find the proper techniques to tackle these learning difficulties, plan their assessments for oral presentations and gear students toward a better mastery of oral presentation skills.

2. LITERATURE REVIEW

Mastering oral presentation is one of the required skills in tertiary settings. In relation to this, most universities have started to include oral presentations as part of their course assessment to keep up with the requirements of current industries. Future employers are looking forward to those who are competent to express their thoughts clearly in spoken English. This has become more challenging when all oral presentations are evaluated and graded as proof that students' oral skills could fulfil the industry's needs (Hadi et al., 2020). Unfortunately, the level of oral presentation skills among graduates today is far from the expectation. Thus, this current study aims to identify the types and causes of difficulties undergraduates face in an oral presentation.

2.1 Types of Difficulties in an Oral Presentation

The inability to control nervousness or speaking anxiety is often linked to second language learners, particularly those involved in oral presentations. According to Tsymbal (2017), speaking anxiety refers to a personal feeling of tension and stress with the unintentional stimulation of the nervous system. Additionally, it is believed that anxiety negatively affects the quality of communication (Tian & Mahmud, 2018). Suppose a person cannot control their nervousness during oral presentations. In that case, this will significantly impact one's self-esteem, leading to feelings of failure, especially when English is not their first language (Naser & Isa, 2021). A study by Kho and Ting (2021) reported that 71 per cent of presenters from the Engineering Faculty were too nervous and stressed in their oral presentations. Meanwhile, a more recent study by Grieve et al. (2021) revealed that the highest number of students (80%) from UK universities testified that social anxiety impacts oral presentations. Some may say that oral presentation is perceived as one of the best assessments since it tests learners' understanding of related topics, the capability of transmitting ideas and handling arguments. Nonetheless, Grieve et al. (2021) assert that oral presentations have mainly contributed to speaking anxiety and stress among students.

Apart from speaking anxiety, other affective factors contributing to low self-esteem among second-language presenters are fear of making mistakes, inability to remember scripts and lack of self-confidence in giving feedback to the audience. These affective factors are interrelated, leading to negative qualities in oral presentations (Ngoc & Dung, 2020). Additionally, too much worry about getting things wrong or being incomprehensible has led to the unwillingness to communicate. This has prevented the smooth flow of an oral presentation among the presenters. Miskam and Saidalvi (2019) mentioned that second language learners with poor English proficiency would have difficulty remembering certain English words, affecting their performance in an oral presentation. With a limited number of vocabularies, most tend to forget what they want to explain to the audience.

On the other hand, Kho and Ting (2021) reported that some students feel intimidated by their friends who can speak a second language better than them. Razawi et al. (2019) found that the audience could also be the main factor contributing to low self-esteem among presenters since

they identified the audience as the most apprehension-provoking factor. The students are terrified by the audience's reactions, especially when the presenters know that their friends who speak better English are among the audience. With the findings recorded, it is essential for academics today to be aware of the difficulties mentioned earlier among their second language learners to assist them further in gaining confidence in mastering the language and performing well in an oral presentation.

2.2 Causes of Difficulties in Oral Presentations

Several studies have identified many causes of difficulties in oral presentations faced by students. Lacking presentation skills and poor preparation before the actual oral presentation is among the reasons why the students could not perform well during the oral presentation. Hadi et al. (2020) illustrate presentation skills as the capabilities possessed by a person who can deliver and engage with the audience while at the same time being informative and transformative. In other words, students must first comprehend what they are supposed to present to deliver a good speech. They must prepare themselves to avoid hiccups during oral presentations. The hiccups here are usually loss of words, inability to remember points to present and fear of handling difficult questions from the audience. A recent study by Kho and Ting (2021) recommended that second language learners enrol in oral presentation classes in which they will be exposed to how to deal with presentations specifically.

Previous studies highlighted that second language learners usually struggle to complete the task in an oral presentation. Having insufficient oral practices interrupts the flow of oral presentations among the students (Razawi et al., 2019). Thus, the students must have sufficient practice before they get into any speaking assessment. Razawi et al. (2019) also reported that those with the deficiency should plan their strategy to ensure a smooth flow of the oral presentation. Another study by Shahar and Abdul Raof (2021) concluded that another cause of difficulty in oral presentation is that students are too afraid of getting evaluated by examiners. As mentioned earlier, the situation has become challenging because most universities today have embedded oral presentations for class assessment. The study's findings include students being too afraid of the assessment to the extent that they could not perform well because they have trouble remembering the points to be presented (Shahar & Abdul Raof, 2021).

The literature review showed that numerous studies had been conducted on speaking anxiety and oral presentation that involves second language learners. However, further studies need to be carried out to understand better the possible types and causes of difficulties faced by these university students, particularly in oral presentations. The study's findings may assist all educators, especially those involved in evaluating and assessing students in an oral presentation.

3. METHODOLOGY

This study applied a quantitative research approach through simple random probability sampling to gather the data related to the research objectives. The sample was selected by preparing a list of the students' names and assigning sequential values to each name, then randomly selecting those values. The respondents of the study were students who enrolled in two courses of English for Oral Presentation Skills (EL590) and English for Professional Interaction (ELC650) at Universiti Teknologi MARA (UiTM) Kelantan Branch. These two courses administer oral presentations as a form of assessment, making it applicable for the researchers to gather information based on the students' experience regarding the difficulties faced during a presentation and the causes of those difficulties. For the 2021 semester, the

number of students enrolled in these two courses was 731. Based on Krejcie and Morgan's (1970) table of sample size, the sampling required for the study was 250 students.

A set of questionnaires was adapted from the study by Nguyen (2010), which comprised two sections. The first section consisted of 35 items on oral presentation difficulties, while the second section covered 10 items on the causes of oral presentation difficulties. The items for both sections applied a 5-point Likert scale from strongly disagree to strongly agree to gather the relevant data and fulfil the study's objectives. After obtaining approval from the research ethics committee, the questionnaire was distributed to the selected respondents using a Google Form through the WhatsApp messaging service. Once the data were gathered, the statistical package for social sciences (SPSS) version 23 was utilised to conduct the tests for descriptive analysis of the study. Reliability and normality tests were initially performed before the items were computed to obtain the mean and standard deviation values.

4. DATA ANALYSIS AND RESULT

The study sample involved 250 students who registered for two English language courses that applied oral presentation as a method of student assessment. From this total sample, 155 students responded to the questionnaire distributed through the WhatsApp messaging service, which achieved a response rate of 68.6%. The respondents were 24 male (15.5%) and 131 female (84.5%), with about half of them (51.6%) students from the Faculty of Computer and Mathematical Sciences, 34.2% from the Faculty of Business and Management and 14.2% from Faculty of Accountancy. A total of 111 respondents (71.6%) took the English for Oral Presentation Skills (ELC590) course, while the remaining 44 respondents (28.4%) attended the English for Professional Interaction (ELC650) course.

Reliability analysis of the instrument items was performed as presented in Table 1. According to Hair et al. (2016), Cronbach's coefficient alpha value of 0.6 and above is considered acceptable to represent the internal consistency reliabilities of the measurement items. Initial reliability analysis on the 35 items that represent difficulties faced during an oral presentation showed that 13 items had Cronbach's coefficient alpha value of less than 0.6. In comparison, 4 out of 10 items had the same issue for causes of difficulties in doing an oral presentation. These items were not included for further analysis in achieving the study's objectives. On top of that, the normality condition is achieved if the skewness and kurtosis measurements of the data are in the range of ± 3.0 and ± 10.0 , respectively (Kline, 2011).

Table 1 Reliability and Normality Evaluation

Measurement Items	Items	Cronbach's Alpha	Reliability	Skewness	Kurtosis
Difficulties faced during a presentation	22	0.951	good	-0.484 to 0.156	-0.859 to 0.349
Causes of difficulties during a presentation	6	0.822	good	-0.755 to 0.371	-0.634 to 0.182

From 22 items of difficulties faced by students during a presentation, the analysis was able to identify the three most and least difficulties, as presented in Table 2. Initially, the questionnaire applied a Likert scale of 5-points which was then re-grouped into a 3-point scale (1=Disagree; 2=Neutral; 3=Agree) to present the frequency of the items being measured. The analysis of mean values showed that the students tend to forget what to say during a presentation (\bar{x} =3.89,

$\sigma=0.920$), followed by making grammatical errors ($\bar{x}=3.77$, $\sigma=0.907$) and not being confident talking in public ($\bar{x}=3.66$, $\sigma=0.935$). However, the least difficulties faced during a presentation were the ability to link the presentation points ($\bar{x}=3.09$, $\sigma=1.028$), not providing elaboration (3.09) and not being sure of where to stand ($\bar{x}=2.94$, $\sigma=0.856$).

Table 2 Difficulties Faced During a Presentation

Item	Scale	Mean	Std. Dev.
Not sure where to stand	Disagree Neutral Agree	2.94	0.920
Not providing explanation	Disagree Neutral Agree	3.09	0.907
Difficulty in linking points	Disagree Neutral Agree	3.09	0.935
Not confident talking in public	Disagree Neutral Agree	3.66	1.028
Making grammatical errors	Disagree Neutral Agree	3.77	0.788
Forgetting what to say	Disagree Neutral Agree	3.89	0.856

Table 3 depicts the two most and least causes of difficulty faced by students during a presentation, which was derived from the analysis of 6 items. Based on the re-grouping of 5-point Likert scales into disagreeing, neutral, and agree, the item on the lack of confidence had the highest agreement frequency with 104 responses while having no experience in doing presentation had the least number of agreements with only 31 responses. The mean values supported the analysis in which the leading causes of having difficulty during the presentation are not having enough confidence ($\bar{x}=3.73$, $\sigma=1.015$) followed by not having good voice quality ($\bar{x}=3.23$, $\sigma=1.060$). Meanwhile, the students chose the items of not having enough time to practice ($\bar{x}=2.82$, $\sigma=0.908$) and not having experience in doing presentations ($\bar{x}=2.70$, $\sigma=1.009$) as the least causes of difficulty.

Table 3 Causes of Difficulty During a Presentation

Item	Scale	Mean	Std. Dev.
No experience in doing a presentation	Disagree Neutral Agree	2.70	1.009
Not enough time to practice	Disagree Neutral Agree	2.82	0.908
Not having good voice quality	Disagree Neutral Agree	3.23	1.060
Lack of confidence	Disagree Neutral Agree	3.73	1.015

5. DISCUSSION

This study was conducted to identify the types of oral presentation difficulties and causes faced by students at UiTM Kelantan Branch. Based on the descriptive analysis, it was found that the most common difficulties faced by students during oral presentations are forgetting what to say, followed by making grammatical errors and not being confident talking in public. The inability to remember presentation content is a common problem faced by presenters and this finding is supported by Ngoc and Dung's (2020) study. Another common problem students face is making grammatical errors during the presentation, which reflects the presentation skill of students, as suggested by Miskam and Saidalvi (2019). The aspects of presentation skill include language usage, which is one of the criteria being assessed during an oral presentation; thus, it supports the finding of this study. In addition, Mohd Nasir et al. (2017) asserted that vocabulary usage affects the student's general English language proficiency. As such, one of the criteria that should be included in oral presentation assessment is language usage, as it may assist in establishing one's oral presentation skills. Another difficulty student presenters face is a lack of confidence when presenting in public. Razawi et al.'s (2019) study also show a parallel concept of being afraid to face the audience, especially after knowing that the audience has a higher proficiency level than the presenter.

The findings from this study have also identified several causes of difficulties faced by the presenters in an oral presentation: not having confidence, poor voice quality, insufficient preparation time and lack of experience in conducting an oral presentation. Grieve et al. (2021) supported the first cause of difficulty in an oral presentation which is students' lack of confidence during a presentation. Poor voice quality is another cause of the difficulties faced, which is in line with Hadi et al.'s (2020) study, where they asserted that most students are incapable of acquiring oral presentation skills. Thirdly, students admitted that insufficient preparation time is also a cause of poor oral presentation performance, supported by Razawi et al. (2019,) who found that less preparation time affects presentation effectiveness. Finally, a lack of experience in oral presentation is also a reason for the inability to present effectively. Kho and Leong (2015) also confirmed that insufficient prior experience is one of the reasons for poor presentation performance.

Based on the discussion above, there is an apparent relationship between the difficulties faced during the oral presentation and their causes. If the students do not thoroughly prepare for the presentation, they will be unable to practice their presentation skills, including voice control and language usage, like grammar components. Therefore, this can also lead them to forget what to say, making them feel less confident in presenting in front and the audience. Having less confidence to speak in public will hinder their opportunities to acquire more experience in an oral presentation. As such, students should be aware that conducting enough practice is crucial in assisting them with a better oral presentation. On the part of instructors, they could set up adequate practice activities for students to have enough confidence before the actual presentation.

6. CONCLUSION

The findings of this study which identified the difficulties faced during the oral presentation and the reasons for having those difficulties were only constrained to students of UiTM Kelantan Branch who enrolled in two courses of English for Oral Presentation Skills (EL590) and English for Professional Interaction (ELC650). It is recommended the sampling of the respondents be extended to other UiTM campuses or students enrolled in other language

courses that integrate oral presentation as a form of assessment. Further studies are also suggested to investigate the impact of practice in improving students' oral presentations.

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AUTHOR CONTRIBUTION STATEMENT

NHMN wrote the introduction. AIA wrote the literature review. WNWM performed data collection and refinement. WNWM wrote the methodology and data analysis sections. AIA, NHMN, and WNWM wrote the discussion and conclusion sections and language editing. WNWM proofread and formatted the paper.

DECLARATION OF CONFLICTING INTEREST

The authors declare that there is no conflict of interest.

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APPENDIX

Appendix 1 Questionnaire Items

Oral Presentation Difficulties Faced by Students

1. I have difficulty in choosing the right topic for the presentation.
2. I have difficulty memorising my presentation points.
3. I was not given enough time to practice my presentation.
4. I am unable to foresee the impact of my presentation to the audience after the speech.
5. I am not sure what the lecturer wants me to show and present during the presentation.
6. I am weak at organising my ideas into good structure.
7. I have difficulty in linking a point to the subsequent point.
8. I face difficulty in building arguments or justify reasons.
9. I tend to give examples without providing explanations.
10. I am unable to use transition phrases in the presentation like I'll begin with... My next point is...
11. I am not sure where to stand when presenting.
12. I am not able to keep my speech flowing smoothly.
13. I do not know how to begin my presentation in an interesting way.
14. I do not know how to end my presentation in an interesting way.
15. I face difficulty in delivering my presentation with clear pronunciation.
16. I am not confident talking in public.
17. I am not good at using presentation aids like PowerPoint slides.
18. I face difficulty asking questions to the audience in order to involve them in my presentation.
19. I face difficulty in varying my voice tone while presenting.
20. I face difficulty in finding suitable examples to illustrate my points.
21. I am not able to use humour while presenting.
22. I am not able to keep eye contact with all members of the audience.
23. I am not capable of maintaining a friendly facial expression.
24. I am not sure how to make appropriate body movements.
25. I am not sure how to use appropriate hand gestures.
26. I tend to make grammatical errors when presenting.
27. I have difficulty using appropriate vocabulary.
28. I have difficulty controlling the time of my presentation.
29. I am unable to control my nervousness.
30. I tend to forget what I want to say when standing in front of an audience.
31. I seldom move around while delivering my presentation.
32. I seldom invite questions from the audience.
33. I face difficulty responding appropriately to questions.
34. I face difficulty in handling difficult questions.
35. I am unable to determine whether the audience is listening or not while I am presenting.

Causes of the Students' Difficulties in Oral Presentation

1. My oral English is not proficient enough.
2. I do not do enough preparation for my oral presentation.
3. I do not have experience in making an oral presentation.
4. I do not have enough knowledge of presentation skills.
5. I lack confidence.
6. I do not get feedback on the presentation from the lecturer.
7. I lack conducive facilities when doing a presentation.
8. I lack guidance from the lecturer on delivering an effective oral presentation.
9. I do not have good voice quality, like being clear and loud.
10. I do not have enough time to practice for my oral presentation.

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Right to Food Information and Food Choice from the Perspective of Fundamental Liberties

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ABSTRACT

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The Federal Constitution is silent on protecting consumers' right to food information and choice. The food label is a source of information and a tool to assist consumers in making food choices. In certain situations, information available on the product's label is limited, restraining consumers from making well-inform food choices, especially concerning credence food products derived from emerging technology such as nanotechnology. Such food is also associated with potential safety and health risks. This paper aims to explore the right to food information and choice from the perspective of the fundamental liberties embodied in the Federal Constitutions, i.e., the right to life and freedom of speech and expression. It adopts a doctrinal approach and content analysis by examining relevant literature on consumer rights to food information, food choice, and fundamental liberties. The finding from this paper indicates that the right to food information and food choice is implicitly part of fundamental liberties in the Federal Constitution. Food choice is associated with consumers' quality of life and their expression of religious beliefs, personal values, and identity. Therefore, consumers must be given the right to be directly involved in labelling issues, i.e., to demand necessary information, which is pivotal to food choices. Reference is made to the legal position under the Universal Declaration of Human Rights (UDHR), Constitution of India and the European Union. This article is intended for the food safety authority and the public because, to date, awareness of constitutional rights in Malaysia's food information law and food labelling is still absent.

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1. INTRODUCTION

The Federal Constitution is silent on the protection of consumers' right to food information to enable food choice. Nowadays, food information is one of the fundamental aspects of life for modern consumers as the structure and composition of food is more complex. The use of novel substances such as genetically modified organisms (GMOs) or engineered nanomaterials (ENMs) in food products entails safety and health concerns among consumers (Xavier et al., 2021). The Food Agriculture Organization (2010) also expressed concern over the potential safety and health implications of ENMs in consumer food products, and food products must be disclosed to consumers to ensure adequacy and transparency of information to enable consumers to make informed choices. Due to the integration of potentially harmful technologies and novel substances, consumers are increasingly interested in choosing safe food or food representing their values and beliefs (Wisemen, 2014).

Right to food choice can only be exercised if the information about the food is adequately available. Labelling food products is the primary source of information and tools for consumers to make food choices. In certain situations, the information available on a food label is inadequate for consumers to exercise their informed decision and choose food products that represent their beliefs, values, and identity. The inadequacy arises because the information disclosed is, at times, inconsistent with the needs and concerns of the consumers. Also, the available information is only limited to the labelling requirement mandated by the government and voluntarily disclosed by manufacturers. For voluntary disclosure, manufacturers prefer to disclose information that can accentuate the commercial value of their products, such as eco-label, country of origin, organic label, production method, suitable for vegans, gluten-free or serving suggestions. However, manufacturers are reluctant and avoid disclosing information that can negatively affect their products (Vidar, 2010). For instance, the FAO expressed their concern over the unwillingness of food manufacturers to disclose the presence of ENMs in their food products due to safety and health concerns (Food Agriculture Organization, 2010). The refusal to disclose the potential safety and health risks could negatively affect the interest of consumers.

In addition to being adequate, food information must also be accurate. For instance, if the food additives are the size of a nanometer, consumers should be informed that the scale of materials is not in conventional bulk that is commonly found in food products. Nanosized materials have been scientifically proven to be more harmful to human safety and health than conventional-sized materials (Al-Bayati & Al-Zubaidi, 2018). Adequate and accurate information about the food product enables consumers to exercise their rights for informed choices by distinguishing between healthy or harmful food (Beekman, 2008). It also protects consumers from being victims of unethical practices and takes necessary early prevention against the risks (Samsudin et al., 2020).

For instance, consumers in the European Union urge their government to introduce mandatory labelling for nanofood to enable consumers to make informed choices because they are concerned about the health status of ENMs in food matrices (Brown & Kuzma, 2013). Later, the European Commission conducted an online public consultation for its Strategic Nanotechnology Action Plan 2010-2015. The result from the consultation shows that 90% of the respondents demand adequate information through labelling of nano-content for consumer products (European Commission, 2012). In January 2018, the mandatory labelling requirement in Regulation 1169/2005 on food information to consumers was enforced throughout the European Union (European Commission, n.d.). The approach adopted by the European Commission and the European Parliament reflects the importance of consumer involvement in

policy relating to food information. It also signifies that the information must be consistent with those of most concern to the consumer. The absence of information is a barrier for consumers to decide on their purchases because food labels influence consumers' purchasing intention and purchasing behaviour (Zul Ariff Abdul Latif, 2013). Therefore, the consumer should be given the right to participate in food labelling decisions, i.e., to request food information not mandated by the legislation or not provided by the manufacturers.

This article does not attempt to establish the right to food information as a fundamental liberty that the Federal Constitution must protect. However, it is to measure the right to food information against the provisions of the fundamental liberties embodied in the Federal Constitution. The discussion is particularly important for the food safety authority and the public as awareness of constitutional rights in Malaysia's food information law is virtually absent. This article also explores the potential arguments favouring consumers' right to demand food information when the government does not mandatorily prescribe it, or manufacturers refuse to disclose it. The right to food information and food choice is discussed from the perspective of Article 5(1) on the right to life and Article 10(1)(a) on the right to freedom of speech and expression. The finding of this article is essential because food information significantly affects consumers' lives. It will influence consumers' choices regarding safety and health issues and are extended to ethical, value, and religious considerations (Berg, 2013).

This article is divided into four parts. The first part is the research methodology, and the second part analyses the right to food information stipulated under the legislation in Malaysia. The following part analyses the legal position on the right to food information under the Universal Declaration of Human Rights (UDHR) in India and the European Union. The last part analyses the consumers' right to food information under the right to life and liberty and the right to freedom of speech and expression in the Federal Constitution. This article ends with a conclusion.

2. METHODOLOGY

This paper is qualitative doctrinal legal research that analyses the relevant literature from online and offline. Online journal articles and decided cases are searched by using a systemic search on Scopus, Web of Science, and Google Scholar. Meanwhile, most of the offline materials are books and domestic statutes, namely the Federal Constitution, Food Act 1985 (Act 281), Trade Description Act 2011 (Act 730), Consumer Protection Act 1999 (Act 599), and Federal Agricultural Marketing Authority Act 1965 (Act 141). The research approach adopted by this paper is descriptive-analytical. The descriptive approach describes the state of affairs on the right to food information and food choice under the food labelling and consumers protection legislation in Malaysia, the UDHR, the Constitution of India, the Treaty on the Functioning of the European Union (TFEU), the European Union Charter of Fundamental Rights (CFR) and the Federal Constitution. The analytical approach is adopted to evaluate the manifestation of the right to food information and food choice in the UDHR, Constitution of India, TFEU, CFR, and the Federal Constitution. Statutes and cases are analysed using a statutory interpretation approach, while other literature is analysed based on content analysis without using a software.

3. DISCUSSION

3.1 Right to Food Information and Legislation in Malaysia

United Nations Conference on Trade and Development (2016) stated that the right for information to enable informed choices refers to the right against fraudulent, deceitful, or

grossly misleading information, advertising, labelling, or other practices and to be given the facts that one needs to make an informed decision. Meanwhile, informed decision refers to the decision based on information obtained by consumers, and enables consumers to evaluate, judge, and decide on products according to the values, beliefs, and preferences they find relevant (Hartwell et al., 2019). For instance, if a consumer chooses to have a healthy lifestyle, they will avoid foods that can deteriorate their health, and the information on the label will assist them in making healthy food choices. Without accurate and adequate information, it would be difficult for consumers to perform the intended behaviour and make the right choice, particularly when it involves highly processed food products or food credence.

The right to information to enable informed choices is one of the consumer's rights that has been universally recognised and stipulated as an inherent right of a consumer by the United Nations Guideline on Consumer Protection 1985 (UNGCP). In April 1985, at the 106th plenary meeting, the United Nations, through the General Assembly Resolution (A/RES/39/248), adopted the UNGCP (United Nations General Assembly, 1985). The UNGCP is a document that sets out the recommendation for effective consumer protection law for the members of the United Nations. The UNGCP is silent on the scope or type of information that the consumer is entitled to obtain. Still, the document specifies that access to adequate information covers information about goods and services (United Nations Conference on Trade and Development, 2016). Arguably, it shall include the right to food information. The UNGCP is a guideline that provides recommendations on the rights and protections of consumers, which has no binding effect upon the member states. However, some countries such as Australia, South Korea, and Malaysia recognise that the UNGCP provides international minimum standards for consumer rights (Deutch, 1994). Therefore, it is strongly indicated that the protection of consumer rights to information and enabled informed choices is part of the consumer protection law.

3.1.1 Legislation on right to food information in Malaysia

In Malaysia, every consumer is granted the right to information as recommended by the UNGCP, protected under four legislations. First is the Food Act 1985 (Act 281) and Food Regulations 1985. Part IV of the Food Regulations 1985 prescribed the mandatory labelling requirements for food products. There are currently four types of mandatory information stipulated under Part IV: *halal* mark (Zul Ariff Abdul Latif, 2013), expiry date, nutritional labelling, and ingredient labelling. Section 15 of the Food Act 1985 mandates that any person responsible for preparing, packaging, labelling, or advertising food products must comply with the standard prescribed by the law. Failure to adhere to the labelling standard prescribed by the law amounts to an offence and shall be punishable by imprisonment, fine, or both. Additionally, every information on its character, nature, value, substance, quality, composition, merit or safety, strength, purity, weight, origin, age, or proportion stipulated on the food label must be accurate and not misleading. Manufacturers that provide consumers with any false information are committing an offence of false labelling under section 16 of the Food Act 1983 and punishable with imprisonment, fine, or both.

Second, the right to food information is also protected under the Federal Agricultural Marketing Authority (Grading, Packaging, and Labelling of Agricultural Produce) Regulations 2008. It is the subsidiary legislation of the Federal Agricultural Marketing Authority Act 1965 (Act 141). The labelling information is only limited to agricultural produce, such as fruits and vegetables. The mandatory information that must be on the package of agricultural produce includes, among others, the name of the importer, exporter, producer or distributor, the address or place of business, name of the product, the information on the product's quality, i.e., grade and size,

country of origin, and weight. Any agricultural produce that fails to comply with the labelling requirement is prohibited from being exported to other countries or imported into Malaysia.

Third, the Trade Description Act 2011 (Act 730) prohibits any false trade descriptions or misleading statements for goods. Food products are categorised as goods, i.e., a movable property stipulated under section 2. Section 6(1) of the Trade Description Act 2011 defines trade description as an indication of nature, method of manufacture, and composition.

Fourth is the Consumer Protection Act 1999 (Act 599). The Act protects consumers inter alia against false and misleading representations of goods. Section 10 (1) of the Consumer Protection Act 1999 interprets misleading or deceptive representations as nature, manufacturing process, characteristics, and purpose. The provisions on protecting consumers against inaccurate descriptions and misleading representation under both legislations are intended to protect consumers' right to accurate information and enable informed choices. The provisions on food labelling requirements and labelling prescriptions in four legislations help consumers make well-informed choices before purchasing food products. It emphasises the adequacy and accuracy of food information, where food manufacturers must comply with the labelling requirements, and the description on the food label must be accurate.

However, this article contended that the labelling requirements under the Food Regulations 1985 and Federal Agricultural Marketing Authority (Grading, Packaging, and Labelling of Agricultural Produce) Regulations 2008 are not comprehensive. Certain aspects of food information are not explicitly prescribed as mandatory labelling requirements. Again, the absence of nanotechnology labelling provision is used as an example. The labelling legislation never mandates the food manufacturers to disclose the scale of materials, either nanoscale or otherwise. From this point, these legislations cannot assist consumers in making well-informed choices. Likewise, the provisions on a false and misleading description in the Trade Description Act 2011 and Consumer Protection Act 1999 are also unable to assist consumers in making informed choices if manufacturers choose not to disclose information that is not required by the law.

3.2. Right to Food Information as Fundamental Liberties

Before analysing the status of the right to food information in the Federal Constitution, this article analyses the status of food information under the document that embodies the core human rights values for all human beings in modern society, i.e., the UDHR. Due to the absence of decided cases and lack of discussions on the right to food information from the constitutional perspective in Malaysia, this article refers to the current legal position in India and the European Union.

The legal position in India is chosen because the Federal Constitution of Malaysia owes much to the Indian Constitution. Many of the provisions in the Federal Constitution are based on their Indian equivalents (Harding, 1996). The Constitution of India has a similar provision on fundamental liberty to the Federal Constitution, particularly the right to freedom of speech and expression (Haidar Dziauddin, 2005). Meanwhile, the reference to the European Union is relevant because the Treaty on the Functioning of the European Union (TFEU), i.e., the consolidated constitution for the European Union, contains a specific provision on consumers' right to information.

3.2.1 The right to food information in the universal declaration of human rights

In 1948, the United Nations General Assembly adopted the UDHR, which sets up the agreed framework for the international human rights law that must be adhered to by the members of the United Nations (United Nations, n.d.). The UDHR does not have an expressed consumer rights or protection provision. Therefore, consumer rights are not classified as a universal human rights law. However, the UDHR recognises that the individual right to information is connected to consumers' right to food choices. Article 19 UDHR states that everyone has the right to freedom of opinion and expression, including the freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of the frontier.

This article argues that the terms 'everyone has the right' can be interpreted as an individual consumer's right to receive and convey information. The term information can be widely interpreted to include consumers' right to information on food products. In this perspective, consumers' right to information is considered part of the international human rights law, which is implicitly embodied in Article 25 of UDHR. In this context, the human rights law can leave a mark on the food labelling law in general, where the labelling mechanism is adopted to impart information about the presence of ENMs to the consumers to allow them to choose the right food to consume.

Consumer rights are known as the third generation of human rights (Deutch, 1994). However, numerous organisations under the United Nations and international treaties have progressively accepted the unrecognised rights, which indicates the universal acceptance of consumers' rights as part of human rights. The protection of consumers' rights itself is the extension of international human rights law because the foundation of consumer protection is similar to the purpose of the UDHR, i.e., to assist people in reaching an adequate standard of living (Ukwueze, 2016). Additionally, one of the guaranteed rights of humans in the UDHR is every individual has the right to food. Article 25 (1) of the UDHR stipulates that everyone has the right to a standard of living that is adequate for the health and well-being of himself and his family, including food. The FAO (2011) enumerates that the right to food represents a vision of a world without hunger, where a man can feed himself or herself in dignity. Therefore, the scope of the right to food under the UDHR is confined to food security in preventing global hunger and food safety in protecting the health and well-being of a human.

Noticeably, the concept of food safety is interrelated to the right to food information to enable an informed choice, as sufficient information could protect consumers from potential food hazards (Bumblauskas et al., 2020). For instance, the information on nanomaterials on a food label allows consumers to choose food that is scientifically proven to be safe and free from any potential adverse effects and opt for food that is free from ENMs. Therefore, the right to food information is implicitly part of the foundation of international human rights law under the UDHR, i.e., the right to information and food, especially when the information concerns food safety.

3.2.2 The right for food information under the constitution of India

Part III of the Constitution of India laid down the provisions on fundamental liberties consisting of the right to equality, right to freedom of speech and expression, right against exploitation, right to freedom of conscience and free profession, practice, right to the propagation of religion, and right for education. Article 19 enumerates freedom of speech. Article 19 (1)(a) granted all Indian citizens the right to freedom of speech and expression. In general, freedom of speech

refers to the capability to think and speak freely and the capability to acquire information from various sources such as publication, speech, and public discussion. The right to freedom of speech and expression occupies the most crucial position in the hierarchy of liberty and is regarded as the ultimate condition of liberty (Jain, 2012).

In India, the right to receive information without any interference originated from the concept of freedom of speech and expression (Jain, 2012). The Constitution of India does not expressly prescribe the scope or type of information entitled by the Indian citizens. However, the issue is whether the right to food information is included as part of constitutional rights has been answered in the case of *Ozair Husain v Secretary Ministry of Health and Family Welfare* (2003). The Delhi High Court in *Ozairhusain's* case dealt with consumers' rights for product information. The issue before the court is whether the Constitution of India guarantees the right of consumers to complete and accurate product information, particularly disclosure of ingredients in cosmetics, drugs, and food products. The petitioner claimed that the manufacturers must fully and accurately disclose products' ingredients. It should be done using words or symbols that consumers can easily understand. The petitioner also claimed that the packaging of food, cosmetics, and drugs made from animals should bear an easily identifiable symbol or word expressing that the product contains animal ingredients. Such information is crucial to ensure consumers can make an informed decision, particularly for consumers who must avoid consuming or using products derived from animals.

It was held that it is essential for a person to receive adequate and accurate information to enable him to meaningfully practice his beliefs, values, and opinions, which he holds. Consumers may be prevented from acting according to their beliefs, values, and opinions without sufficient and correct information. For instance, Hindu or vegetarian consumers need to be sufficiently informed that the cosmetics, drugs, or food products they wish to purchase are free from animal-derived components. Without such information, it is difficult for him to practise Hinduism or vegetarianism. In the context mentioned, freedom of expression enshrined in Article 19(1)(a) of the Constitution of India can serve two pivotal purposes (i) it assists consumers in discovering the truth about the ingredients of the products, whether it is animal-free, and (ii) it helps consumers to fulfil his religious belief, value, or opinion.

This case signifies that the protection of consumer rights is implicitly embedded in the Constitution of India. The right to product information is protected as freedom of speech and expression under Article 19(1)(a), and the scope of information that Indian citizens are entitled to includes information on food products. It also demonstrates that the right to information becomes more significant for a society with particular beliefs and values where consumers in India are of various races and practice different religions, such as Hinduism and Islam. When making choices, they must consider the values and beliefs prescribed by their respective faith.

3.3.3 The right to food information in the European Union's constitutions

In the European Union, the provision of the consumer's right to information is clearly stated in the Treaty on the Functioning of the European Union (TFEU). The TFEU organised the functions of the European Union and is regarded as the constitution of the European Union, which came into force on 1 December 2009 (European Observatory of Working Life, 2012). Title XV of the TFEU enumerated the general provisions on consumer protection. It is considered the foundation for the European policy on consumer protection. It aims to guarantee European consumers' rights and ensure they are entitled to a high level of security. Article 169 (1) of the TFEU recognised the consumer's right to information where it is stipulated that to promote the interests of consumers and to ensure a high level of consumer protection, the Union

shall contribute to protecting the health, safety, and economic interests of consumers, as well as to promoting their right to information.

Article 169 of the TFEU cannot be used directly by consumers as a legal basis against the infringement of consumers' rights. The provision is directed to the European Union bodies and not to members of the European Union or individuals. Article 169 empowers the European Union bodies to take necessary action to ensure consumers in the European Union are granted a high level of protection. The provision must be complemented by a provision of secondary law (Jagielska & Jagielski, 2010). The secondary law includes legislative acts that are binding laws adopted by the Union members, such as EU Regulations (European Justice, 2019).

The right for information under Article 169 (1) of the TFEU has been complemented by two secondary laws, Regulation (EC) No 178/2002, laying down the general principles and requirements of food and Regulation (EU) No 1169/2011 on the provision of food information to consumers. Article 18 (1) of the Regulation (EC) No 178/2002 states that the European Union food law aims to protect the interest of consumers and laid down the foundation for consumers to exercise their right to informed choices concerning the food they consume. Likewise, Regulation (EU) no 1169/2011 requires food information to be made available to the final consumer through a label, other accompanying material, or any other means, including modern technology tools or verbal communication. Therefore, the provision on consumer protection in the TFEU directly impacts the European Union food information law. Consumers can use the provision in these two regulations as the basis for their claim.

Furthermore, protecting consumers' rights in the European Union is also a fundamental right. The European Union Charter of Fundamental Rights (EUCFR) expressed the stipulated consumer protection provision. The EUCFR is the primary framework to protect human rights in the European Union. It brings together the fundamental rights from civil, political, economic, and social rights of everyone living in the Union (Equality and Human Rights Commission, 2016). Protection of consumers' rights is a form of economic and social rights. Article 38 of the EUCFR clearly states that the Union policies shall ensure a high level of consumer protection.

The provision of consumer protection under Article 38 of the EUCFR is general. It does not explicitly specify the scope or type of protection entitled by the European consumers. Arguably, to achieve a high level of consumer protection, the protection shall include the right to adequate and accurate information, one of the fundamental rights of consumers prescribed in the UNGCP. Besides, the incorporation of consumer protection, particularly on the right to information in the TFEU, is a form of 'constitutionalisation' of consumer rights, including the right to food information in the European Union and is perceived as a fundamental right of the European community.

3.4 Right to Food Information in the Federal Constitution of Malaysia

Part II of the Federal Constitution enumerates the fundamental liberty of a person with nine different rights. These rights are essential to the modern constitution to safeguard every citizen's fundamental civil, political, social, and economic liberties (Fernando & Rajagopal, 2017). It is deemed so important that no one, including the government, is not entitled and prohibited to infringe upon it unless permitted by the law, whether the liberty of an individual includes protecting consumers' right to food information.

3.4.1 Right to life and liberty

Article 5 (1) of the Federal Constitution states that no person shall be deprived of his life or personal liberty save in accordance with the law. The notion of the right to life or personal liberty is commonly associated with the right to exist, where a person is protected from unlawful death and unlawful imprisonment. However, the right to life is not about the mere existence of a human being. The term 'life' refers to the entitlement to live in a manner that respects individual personal aspirations to get a desired quality of life (Azmi Sharom, 2015). The term 'life' has been interpreted by the Court of Appeal in the case of *Tan Tek Seng v Suruhanjaya Perkhidmatan Pendidikan & Another* (1996). In this case, Justice Gopal Sri Ram held that [...] I have reached the conclusion that the expression 'life' appearing in Article 5(1) does not refer to mere existence. It incorporates all those facets that are an integral part of life itself and those matters which go to form the quality of life. It includes the right to live in a reasonably healthy and pollution-free environment.

This case was never concerned about food choice and food information. It is a case on the dismissal of a public servant where the appellant argued that his dismissal as a school principal violates the provision of the right to life and personal liberty under Article 5(1). However, the judgment provides the interpretation of the concept and scope of the right to life. The judgment illustrates that the term 'life' involves all aspects or attributes important for one's life, influencing the quality of life, such as the right to live in a reasonably safe and healthy environment. Azmi Sharom (2015) reiterated that such interpretation opens the door for future incorporation of rights that is not under the protection of Article 5.

This paper contended that the interpretation of 'life' in Tan Tek Seng's case is relevant to the present issue. As previously explained, the concept of food information enables consumers' informed decisions on food choices. It is considered one of the facets influencing consumers' quality of life, especially when food products threaten consumers' safety and health. Noticeably, not all food products in the market are safe for consumption, and not all foods available to consumers are subjected to pre-market review to ascertain their safety status. For instance, ENMs in food products as additives or preservatives have raised safety and health concerns. Scientific studies demonstrate that oral exposure to ENMs may lead to various health complications (Sajid et al., 2015). Despite the risks, nanofood volume increases in the market because manufacturers perceive ENMs as unique materials that have revolutionised the food industry (Qadri et al., 2018). Consumers are exposed to the potential risks of nanofood unknowingly.

In this situation, consumers have a right to demand information on their foods' nano status where the information directly influences their quality of life. If no information is provided, consumers cannot choose healthy food. Most importantly, they could not take precautionary measures to prevent or minimise the risks. They will be exposed to safety and health risks, negatively affecting their quality of life. Manufacturers and food regulatory authorities must comply with consumers' demand for information. Denying consumers' right to food information that is important for their safety and health implies that consumers in this country are not entitled to safe products and have a good quality of life.

3.4.2 Freedom of speech and expression

As previously discussed, the right to food information is part of freedom of speech and expression in the Constitution of India. Whether the freedom of speech and expression in the Federal Constitution also recognises the same right since both constitutions have a similar

provision. Article 10(1)(a) of the Federal Constitution states that every citizen has the right to freedom of speech and expression. The protection of freedom of speech and expression is commonly associated with political speech or political expression, which is the cornerstone of a functioning democracy and stimulates discussion on public matters (Haidar Dziauddin, 2005). However, this paper believes that the provision is wide enough not to encompass only political speech and expression but all modes of communication.

In the case of *Public Prosecutor v Ooi Kee Saik & Others* (1971), Justice Raja Azlan Shah explains that 'the right to freedom of speech is simply the right which everyone has to say, write or publish what he pleases so long as he does not commit a breach of the law. The case did not concern food information or food choice, but it involved a seditious statement by the accused toward the government. The statement intended to arouse feelings of hostility and displeasure among Malaysian, which is against the right of speech and expression.

Based on the judgement of Justice Raja Azlan Shah, speech and expression involve the freedom to communicate one's ideas through any medium. Shad Saleem Faruqi (1992) explained that the medium of communication could be through a verbal and non-verbal activity that includes word of mouth, signs, symbols, and gestures, and works of art, music, sculpture, photographs, films, videos, books, magazines, and newspapers. Therefore, the scope of freedom of speech under the Federal Constitution is the right to disseminate or publish information.

Does the Federal Constitution's right to freedom of speech and expression cover the right to request and receive information on food products? There is no direct authority on the right to receive information under the Federal Constitution (Shad Saleem Faruqi, 1992). He referred to the case of *Dow Jones Publishing v Attorney General* (1989), decided by the Singapore Appeal Court. The law in Dow Jones' case is likely to be the position in Malaysia. This case concerns the publication of an article by the appellant in the *Asian Wall Street Journal* regarding the government policies on establishing a secondary stock exchange. The issue concern is the right to receive information under Article 14(1)(a) of the Constitution of the Republic of Singapore. It was held that the scope of freedom of speech and expression is only confined to communication and dissemination of information. It shall exclude the receipt of information. Therefore, applying the principle from Dow Jones's case, the right of consumers to request information about the presence of ENMs in the food ingredients is likely not protected as freedom of speech under the Federal Constitution. Consumers have to rely on the information prescribed in the Food Regulation 1985, Federal Agricultural Marketing Authority (Grading, Packaging, and Labelling of Agricultural Produce) Regulations 2008, and information voluntarily disclosed by manufacturers.

However, this paper contended that the right to request food information to exercise food choices is connected with protecting freedom of speech and expression. The contention is based on the interpretation of freedom of speech and expression in the Constitution of India and the case of *International Dairy Foods Association v Attorney General of the State of Vermont and Commissioner of Agriculture, Food and Markets of the State of Vermont* (1996). As discussed, the Constitution of India protects the right to food information under the freedom of speech and expression because product information is an integral tool for consumers in India to express their values and beliefs. For vegetarian consumers, food information must indicate that the food is free from animal-derived ingredients. The information on the food label must consider the interest of individuals who seek knowledge about their food to make informed dietary choices (Keane, 2006).

Similarly, Rencher (2011) argues that food information should be part of individual fundamental liberties because it is essential for several reasons such as health and safety, religion, ethics, culture, identity, and self-expression. In the International Dairy Foods Association's case, the United States Court of Appeal (Ninth Circuit) held that food information stipulated on a food label is paramount for consumers' health, economic and ethical concerns. A label is not merely to satisfy intense consumer curiosity or the public's right to know. Therefore, information on food labels is also integral for ethical and religious considerations, particularly for a country with diverse religions like Malaysia. There is a possibility that the ingredients are not suitable for the consumption of specific individuals due to ethical and religious constraints. For instance, Muslims are more exposed to various ingredients and manufactured foods resulting in an increased awareness among Muslim consumers on Islamic food dietary requirements. Muslims place a more significant concern on the halal status of their foods, which is an essential nutritional requirement for Muslims (Rahman et al., 2014; Wan Ismail et al., 2020). Hence, the right to request food information to exercise food choice is part of constitutional rights.

4. CONCLUSION

Consumer activity in choosing food products for consumption can be indirectly linked to human rights protection. The UDHR recognised the right to information as an international human right, which rendered consumers' right to food information as the third generation of human rights. In India and the European Union, consumer protection has been given a constitutional value where their respective constitutions explicitly protect the consumer right to information as a fundamental liberty. Meanwhile, the Federal Constitution does not embody a specific provision on the right to information or the right for food information. However, consumers' right to food information is implicitly related to the right to life stipulated in Article 5(1) of the Federal Constitution. The accurate and adequate food information is considered part of the right to life because it directly affects consumers' quality of life, such as improving their health or preventing unwanted health risks.

Besides that, food information enables consumers to exercise their freedom of speech and expression. Food choice is associated with consumers' expression of ethics, values, and religious beliefs. However, the right to receive information on a food product is not protected by Article 10(1)(a) of the Federal Constitution, rendering the right of consumers to express their values and belief through food choice limited only to the information prescribed by legislation and voluntarily disclosed by manufacturers. With the rapid expansion of science and technology in the food processing industry, consumers require more information about food products available on the market as technology has changed the nature and characteristics of the food they consume. Consumers should be given a right to participate in the labelling decision to determine which information should be included in food packaging. Information on food ingredients, processes, and nutrients are closely connected with consumers' well-being, health, and spiritual belief. Therefore, the right to food information may deserve some degree of constitutional protection. If liberty is the freedom to make one's own choices in life, then those choices should include choices of food.

However, it is uncertain whether the court in Malaysia is ready to include and interpret the right for information to enable food choice as freedom of speech and expression or whether the right is only reserved for political speech and expression. In furtherance of promoting the right to food information and food choice from the perspective of fundamental liberties, this paper also recommends future research on public awareness and knowledge on right to food information and food choice from the perspective of fundamental liberties, in Malaysia. It is to examine

whether the public is aware of the wide protection granted by the Federal Constitution including food choice.

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AUTHOR CONTRIBUTION STATEMENT

NAH and NA collected and analysed the relevant literature. NAH also wrote the introduction methodology and on the right to food information as a fundamental right. NA and SMA wrote the right to food information in the Federal Constitution and the conclusion. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTEREST

The authors declare that there is no conflict of interest.

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Scaffolding Online Learning in a Higher Education Institution: A Need Analysis

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ABSTRACT

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The COVID-19 pandemic has changed the learning landscape at higher education institutions worldwide. University students face many challenges, adapting to online learning instantly. It is necessary to provide adequate scaffolds to students when they learn online. However, a literature review revealed that scaffolds were designed based on the literature or teachers' conceptualisation of scaffolding. Need analysis for scaffolding is under-researched. This action research aimed to investigate the challenges faced by postgraduate students during online learning and the types of scaffolds they needed for online learning. This research involved 35 postgraduate students in a private higher education institution. The participants completed an online questionnaire. Data was coded and categorised into themes. The results showed that the students faced various challenges in terms of personal competency, language proficiency, assessment and learning resources. They needed support from fixed scaffolds and adaptive scaffolds. Based on the results from the baseline study, the researcher designed multiple forms of scaffolds to support online learning. This study highlights the need to design scaffolds based on student's learning needs to address the challenges they face in an online learning context. Limitations in terms of data collection method and instruments are discussed. Although the challenges explained by the students may only represent the period of campus closure, this research provides insights into students' perceptions of scaffolding in a unique period in higher education. The findings contribute to the design of scaffolding in the online learning context.

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1. INTRODUCTION

In December 2019, a contagious coronavirus started to spread across nations worldwide. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a public health emergency of international concern (World Health Organisation, 2020). To prevent the spread of COVID-19, all countries took various measures such as enforcing social distancing and self-quarantine, implementing the “work from home” policy and closing non-essential sectors (World Bank, 2020). This pandemic has also resulted in the abrupt closure of tertiary education institutions globally, causing approximately eight million university students at risk of not returning to their institutions (UNESCO IESALC, 2020). The temporal closure has greatly impacted the universities in terms of teaching, research, and community service (Suhaida Halamy et al., 2021; UNESCO IESALC, 2020). Tertiary education providers worldwide, including Malaysia, had to transform their face-to-face lessons into online lessons (Suhaida Halamy et al., 2021; UNESCO IESALC, 2020). Teaching staff and university students faced many challenges as they had to quickly adapt to online learning (Almendingen et al., 2021). Besides technical and accessibility issues, university students also had to overcome some difficulties in learning. Research showed that students found it hard to achieve the learning objectives (Almendingen et al., 2021). Therefore, providing scaffolds to students when they learn online is crucial.

Wood and his collaborators introduced the term scaffolding to depict the interaction between a tutor and a child, which assists the child in solving problems which may be unachievable without help (Wood et al., 1976). Since its introduction, this metaphor has been widely used to depict temporary support provided by more capable individuals to help students move progressively towards independent learning (Maybin et al., 1992). This definition is always linked to the Zone of Proximal Development (ZPD) concept in Vygotsky's Theory of Social Constructivism (Puntambekar & Kolodner, 2005; Smit et al., 2013). Scaffolding is provided to learners within the ZPD to move them towards independence (Smit et al., 2013). Teachers can provide fixed or adaptive scaffolds to support student learning in an online setting. Fixed scaffolds are static support planned in advance of the implementation of lessons (Azevedo et al., 2005; Saye & Brush, 2002). Previous studies have shown that question prompts, comment boxes, and videos (Almendingen et al., 2021; Delen et al., 2014) are useful fixed scaffolds for facilitating student learning. Adaptive scaffolds are more dynamic and situational, where teachers conduct ongoing diagnoses of students' emerging performances and provide adequate support till they can take responsibility for their learning (Azevedo et al., 2005; Saye & Brush, 2002). For instance, teachers explain the meaning of terms, check students' answers and provide suggestions to improve student learning (Chen, 2021).

Most scaffolds are designed based on existing literature or teachers' conceptualisation of scaffoldings. Teachers' conceptualisation of scaffolding differed based on their discipline and teaching philosophy (Richardson et al., 2021). They design scaffolds without conducting a need analysis to identify the challenges faced by their students during online learning and the types of scaffolds that are helpful for them. Diagnosing students' learning needs is essential to designing effective scaffolds (Van de Pol & Elbers, 2013). However, the need analysis for scaffolding is under-researched, and this action research filled this gap by investigating the challenges faced by the students during online learning and the types of scaffolds they needed for online learning. The findings from the need analysis provided the basis for designing scaffolds for supporting online learning.

This study contributes to knowledge generation regarding the concept of scaffolding. In its original conceptualisation, scaffolding is provided by the tutor to learners in a face-to-face setting. This study expanded the notion of scaffolding to include fixed and adaptive scaffolds in online learning contexts. This study has practical implications as it provides insights into online learners' needs and the challenges they face in their learning. Diagnosing learners' needs and designing corresponding scaffolds should be at the heart of scaffolding (Smit et al., 2013). The research findings will further reveal how fixed and adaptive scaffolds can be designed and adapted to seamlessly support online learning based on learners' needs to close their learning gaps. In addition, this study proposed a scaffolding framework to support online learners. This framework can be contextualised to cater to diverse learners' needs at different school levels.

2. LITERATURE REVIEW

2.1 Online Learning Challenges

With the COVID-19 pandemic, it has become more apparent that students are susceptible to challenges brought by online learning during the COVID-19 pandemic. Adedoyin and Soykan (2020) identified seven challenges of online learning: technology, socio-economic factor, external interference, digital competence, assessment supervision, workload and compatibility. In terms of technology, students face the problem of poor internet connection and outdated technological devices (Adedoyin & Soykan, 2020; Almendingen et al., 2021; Bibi Noraini et al., 2020; Bringula et al., 2021; Ferri et al., 2020). Some devices are not compatible with new software or platforms, causing students to be unable to access learning resources or participate in class activities (Adedoyin & Soykan, 2020; Jaradat & Ajlouni, 2021). Students from low socio-economic status (SES) families may depend on school facilities such as internet connection and computer labs to follow online classes. Due to the closure of schools, these students take longer to migrate from physical lessons to online lessons (Adedoyin & Soykan, 2020). This issue has negative impacts on student learning as they are left behind in their studies. Parents of low SES families are normally less educated and cannot provide adequate assistance to their children during online learning (Duraku & Hoxha, 2020).

Students report that their attention was disrupted by external interference. This disturbance can be caused by family members, peers or pets (Adedoyin & Soykan, 2020; Almendingen et al., 2021; Bringula et al., 2021; Duraku & Hoxha, 2020; Jaradat & Ajlouni, 2021). The noise made by family members and free-roaming pets will cause students to lose their attention. Even tertiary students reported that they were less focused during online learning (Bibi Noraini Mohd Yusuf & Jihan Ahmad, 2020). Students are asked to run errands for their families and do household chores resulting in them procrastinating in completing their tasks and becoming less productive (Bringula et al., 2021).

Digital competence is essential during online learning. Teachers and students with low digital competency cannot easily access online learning resources, such as digital libraries (Adedoyin & Soykan, 2020). Students with technophobia are not inclined to use advanced technology in learning (Jaradat & Ajlouni, 2021). Less IT literate teachers cannot adopt appropriate online pedagogies to engage their students in learning (Ferri et al., 2020; Jaradat & Ajlouni, 2021). In terms of learning resources, the materials prepared by instructors lack clarity and cannot deliver the lesson content effectively (Jaradat & Ajlouni, 2021).

The online assessment also poses challenges to students. The design of assessment tasks, which include time allocation for online exams, clarity of instructions and feedback frequency, is inappropriate (Bringula et al., 2021; Jaradat & Ajlouni, 2021). Students are anxious that they

are not able to complete the online quiz or exam in time due to internet connection and unfamiliarity with the online assessment platform (Bringula et al., 2021).

The quick and sudden transformation from physical to online lessons significantly increased the workload of ICT departments, instructors and students. Students need to communicate with their instructors through emails, social media and messaging systems. Despite these various forms of online communication, students perceive a lack of social interaction with community members (Almendingen et al., 2021). They face problems keeping in touch and seeking advice from teachers and peers (Bringula et al., 2021).

Online learning cannot be effectively and efficiently applied in some disciplines, such as medicine and culinary, and this compatibility gap is yet to be fully closed (Adedoyin & Soykan, 2020). They further explain that even though remote, virtual laboratories and simulations are alternatives to physical classes, these methods are more appropriate to complement face-to-face training. Duraku and Hoxha (2020) further elaborated that online lessons broadcasted on television are short and not synchronised with the curriculum.

2.2 Scaffolding Online Learning

In its original conceptualisation, scaffolding is used to explain the interaction between a tutor and a child that assists the child in solving a problem and accomplishing a more complex task that may be unachievable without any assistance (Wood et al., 1976). There were six tutor actions in the scaffolding process which included (1) cultivating interest in the task; (2) simplifying the task; (3) maintaining the directions to the task goals; (4) highlighting critical features of the tasks; (5) controlling frustration; and (6) modelling for imitation (Wood et al., 1976). Scaffolding is commonly linked to Sociocultural Theory by Vygotsky and the Zone of Proximal Development (ZPD) (Maybin et al., 1992; Puntambekar & Kolodner, 2005). ZPD is the gap between what a learner can do independently and what they can potentially do with the help of a more knowledgeable other (Puntambekar & Kolodner, 2005). The concept of ZPD was first explicitly linked to the idea of scaffolding by Cazden (1979) as she reviewed studies on mother-child interaction and related it to classroom talk. Her review provided scaffolds to help children answer teachers' questions and participate in discourses (Cazden, 1979).

In an online setting, both fixed and adaptive scaffolds can help students perform complex tasks and learn from problem-solving experiences (Richardson et al., 2021). Fixed scaffolds, including computer-assisted scaffolds, are widely used to facilitate online learning (Almendingen et al., 2021; Cho & Cho, 2016; Delen et al., 2014; Ekman, 2021; Korhonen et al., 2018). For instance, Korhonen et al. (2018) designed online tools to scaffold collaborative knowledge construction and exchange of ideas among university students. The researchers created a platform for students to communicate and exchange information with their peers to improve socialisation. Online meetings were scheduled for teachers to clarify students' doubts, whereas teachers could leave comments on the student circle's blog. Students found the comments helpful in improving the quality of their tasks. In a similar study to scaffold community knowledge, Ekman (2021) utilised a Facebook group for students to discuss how to monitor air pollution. The research findings improved the students' scientific arguments through a peer scaffold. For example, the students added information to their members' posts and supported their members in justifying their arguments about the high pollution index. The social presence of teachers and peers is crucial to developing a sense of connectedness for better mutual understanding (Cho & Cho, 2016; Kim & Lim, 2019).

Metacognitive scaffolds are commonly used to develop students' knowledge and reflective skills (An & Cao, 2014; Kim & Lim, 2019; Quintana et al., 2008). Quintana et al. (2008) argued that metacognitive scaffolds were needed to support online inquiry learning. Based on the positive results of their study, the researchers highlighted the design principles to support online metacognition, including providing visual representations to explain the task, integrating planning tools to monitor progress; and providing reflective prompts (Quintana et al., 2008). In a quasi-experiment study by Kim and Lim (2019), the researchers scaffolded ill-structured problem-solving among college students using supportive scaffolds and reflective scaffolds. Supportive scaffolds such as the explanations provided by the teachers, visual materials and links to online resources were provided to help students develop their domain knowledge. Metacognitive scaffolds, including exploratory questions, hints and expert models, were provided to help students reflect on the strategies used. This study indicated that the students could construct optimal solutions through continuous reflection using the scaffolds provided. Consistent with this study, An and Cao (2014) found that metacognitive scaffolds effectively support the students in designing problem-solving procedures.

Chen (2021) designed multiple forms of fixed scaffolds such as notes, captions, extended reading materials and model answers to support learning Chinese as a foreign language among international students. It was found that these fixed scaffolds could promote the students' online learning autonomy in terms of knowledge enhancement as they could search for the information needed. However, the students needed additional support from the teachers when they learned more complicated topics such as Chinese culture and history. In agreement with Chen's (2021) findings, teachers in the study conducted by Richardson et al. (2021) stressed that it is essential to support students with different types of scaffolds (e.g., cognitive scaffolds, metacognitive scaffolds, strategic scaffolds) in both fixed and adaptive forms. It is because fixed and adaptive scaffolds can complement each other (McNeill & Krajcik, 2009) in response to the diverse learning needs of students.

3. METHODOLOGY

3.1 Participants

This study was conducted on a group of first-semester postgraduate students at a private university in Selangor, Malaysia. The participants enrolled in a module that focused on imparting knowledge about teaching, learning and assessment. Data collection was through an online questionnaire, and 35 out of 76 students enrolled in this module completed it voluntarily. The response rate was 46%. This study adopted purposive sampling as the researcher clarified that if the students did not face any challenges during online learning, they could opt to withdraw from this study. The participants' demographic information is shown in Table 1.

Table 1: Participants' Demographic Information

Demographic Information	Frequency (Percentage)
Gender	
Male	10 (28.6%)
Female	25 (71.4%)
Status	
Local	7 (20.0%)
International	28 (80.07%)

3.2 Research Design

This study adopted a practical action research design. Practical action research is a systematic procedure conducted by practitioners to address an actual educational issue they face to improve classroom practice through a spiral of self-reflection whereby teachers evaluate different solutions to their problems and gain knowledge from testing multiple ideas (Creswell, 2008). Practical action research involves four steps, namely (1) identifying an area of focus, (2) collecting data, (3) analysing and interpreting data as well as (4) developing an action plan (Mills, 2000). These steps do not follow a linear pattern but a “spiral” back and forth pattern to evaluate, revise and repeat the plan.

In this study, the author (addressed as "I" in this paragraph) was the practitioner who taught this postgraduate module. I conducted this research in my practice to improve my students' learning experiences. Firstly, I identified the areas of focus: the challenges my postgraduate students faced during online learning and the potential scaffolds that could be designed to facilitate their learning. Secondly, I conducted a baseline study to understand these issues. Thirdly, I analysed and interpreted the results from the baseline study. Finally, I designed different types of scaffolds to support their learning. This study was the first iteration of the action research.

3.3 Data Collection and Analysis

The qualitative data for the baseline study was collected using an online questionnaire. This questionnaire was developed based on the literature review about scaffolding online learning. The link to the questionnaire was shared on the official Learning Management System (LMS) of the University. The students were given one week to complete the questionnaire which consist of two sections. Section 1 collected the participant's demographic information. Section 2 consisted of two open-ended questions which focused on the challenges faced by the participants during online learning and the types of scaffolds needed to support their learning.

This study adopted a thematic analysis. Firstly, the participant's responses to the questions were coded. Secondly, the codes were categorised into themes based on the challenges faced by the students and the types of desired scaffolds. The data was first coded independently by two researchers. The author was one of the coders. The second coder is an academic at a US-based university with no direct involvement with this study other than being a coder and peer debriefer. The codes were then compared against each other to identify areas of agreement and disagreement. Any disagreements in coding were discussed until a consensus was achieved.

4. RESEARCH FINDINGS

The research results are reported from two aspects: 1) challenges faced during online learning; and 2) scaffolds for online learning.

4.1 Challenges Faced during Online Learning

This study found that the participants faced several challenges when they learned online during the COVID-19 pandemic. Only the challenges which can be addressed using scaffolds are reported. Therefore, technical issues such as poor connectivity, inaccessibility to online resources and time constraints are not reported. The challenges are discussed from the following four aspects: (1) students' competency, (2) language proficiency, (3) assessment tasks, and (4) learning resources, as summarised in Figure 1.

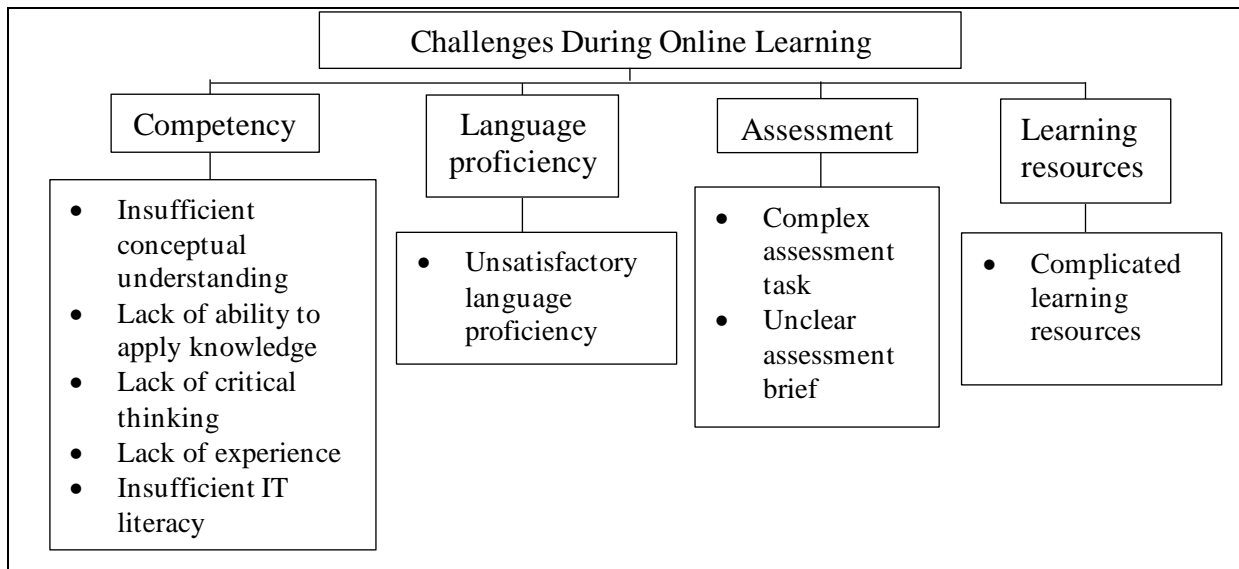


Figure 1 Challenges in Online Learning Context

4.1.1 Students' Competency

Students' competency was related to their ability to apply knowledge and skills to perform a task successfully. It can be discussed from the aspects of conceptual understanding, knowledge and skills.

4.1.1.1 Insufficient conceptual understanding

The participants mentioned that they have a limited conceptual understanding of the subject matter related to teaching and learning. For example, two participants said,

"I have difficulty in understanding the main ideas of the article (learning resource). I cannot grasp all the concepts." (S3)

"There are too many academic terms and facts. Sometimes I cannot understand without examples." (S28)

One participant, S13, further related this challenge to his degree, which was not in the field of education:

"The main challenge I faced was to understand the psychological aspect in the effort of creating a cohesive education. I come from an engineering background, so the psychological aspect is not a familiar topic. It is difficult to develop a deep understanding of this topic."

4.1.1.2 Lack of ability to apply knowledge

Two participants mentioned that they had difficulty applying their knowledge in their studies or careers. For example, S8 said,

"Even though I can understand the content of the lesson, I am not able to apply the concepts to the assignments." S18 echoed her peer's comment and explained *I think sometimes it's hard to connect the educational theories with my current job.* (S18)

4.1.1.3 Lack of critical thinking

A participant expressed the view that she cannot think critically,

“I found the assignments challenging, maybe I lack critical thinking. I don’t know how to analyse a problem and critique an article.” (S8)

4.1.1.4 Lack of experience

Lack of experience was another challenge mentioned by the participants. They agreed that having no experience in teaching was a disadvantage as they could not visualise a classroom scenario and utilise their experience to complete the tasks given. S24 responded,

“I am not a teacher and have no teaching experience, I do not have a deep understanding of some theoretical knowledge...I cannot relate it with what happens in a classroom.” (S24)

S31 expressed the same view,

“I just graduated from university. I don't have any experience, so it is hard for me to finish some tasks.”

4.1.1.5 Insufficient digital literacy

IT literacy is an essential skill during online learning. I used various online platforms to engage my students in learning. It was found that a few students are not familiar with the online learning tools. This affected their engagement during the lessons. For example, two participants explained,

“I am not familiar with Padlet. I took some time to figure out how it works.” (S4)

“I am unfamiliar with Times (Learning Management System). Sometimes I could not find the learning resources.” (S9)

4.1.2 Language Proficiency

Language proficiency is one of the most typical challenges among international students. S1 and S3 explained that English is not their first language,

“I think the challenges are the language, but I try my best to increase my English skill.” (S1)

“It is hard for me to understand the meaning of some professional terms. I am not an English native speaker.” (S3)

4.1.3 Assessment Task

Since the students were in the first semester of their studies, they found the assessment tasks challenging due to two factors: (a) complexity of the task and (b) simplistic assessment brief.

4.1.3.1 Complex assessment task

The students were required to complete three graded assessment tasks in this module. These assessment tasks included reflective writing, an assessment plan and a lesson plan. Ungraded formative assessments such as article reviews and quizzes were also implemented to assess students' understanding of the lesson content. However, three participants expressed the view that those tasks were a bit challenging for them. For example, S5 mentioned,

“I faced difficulty in understanding what is expected in the assignment, particularly how to develop an assessment plan, what and how to cite as well as how to present the work.”

S9 and S16 shared the same opinions. They responded,

“The structure for the assignment is slightly challenging. I need some time to make sense and put into order the materials”. (S9) and “There is too much information to cover in the assignments. I am confused and not sure if the work I have done is really what is expected from me.” (S16)

4.1.3.2 Superficial description of assessment task

For the students, the descriptions for the assessment tasks were broad and general. For example, a student mentioned,

“I knew that I was required to reflect on my learning experience. However, I didn’t know what I should write. Which aspect I should focus on?” (S19)

4.1.4 Learning Resources

As first-semester students, the participants thought the learning resources' content was overwhelming. S29 explained,

“There is too much information on the PPT. I can’t identify the key points. I spent a lot of time reading and understanding the content.”

S23 echoed,

“There is too much new information learned. The PPT contained a lot of information. I had no time to internalise the knowledge during the classes.”

4.2 Students’ Needs for Scaffolds during Online Learning

The students’ responses indicated that they needed guidance to enhance their understanding. Thus, scaffolds are needed when learning online. A fixed scaffold will benefit the students.

4.2.1 Adaptive Scaffolds

The students needed adaptive scaffolds, which are just-in-time support given by the lecturer when teaching and learning opportunities emerged. The adaptive scaffolds mentioned by the students include providing examples, feedback and guiding questions, as well as creating social spaces for peer interactions.

4.2.1.1 Providing examples

A few participants explained that concrete examples could help them better understand the lesson's content and abstract concepts. For instance, S33 said,

“For some abstract concepts or difficult academic terms, it is better if the lecturer can give us some examples. Examples are good for understanding.”

S18 and S31 also mentioned that real-life examples from classrooms could help the students without teaching experience. They explained,

“Hope the lecturer can give more examples from classrooms when she teaches the theoretical knowledge.” (S18)

“The lecturer can give more real-life examples related to how to teach a topic. Classroom scenarios from her experiences would be helpful. It is hard for me to visualise what happens in a classroom. I do not have any teaching experience” (S31)

4.2.1.2 Providing feedback

The participants perceived that the lecturer needed to provide feedback on their assignments and class work. For instance, S7 explained,

“Whenever I email her to ask any question or seek for feedback for my work, she replies instantly. This is so admirable. I think feedback is important for me to improve my performance.”

S11 expressed the same opinion:

“The lecturer can check our work and give some comments so that we know if we are on the right track for assessment.”

4.2.1.3 Providing guiding/prompting questions

A participant explained that guiding questions would be helpful for assignment completion. S17 said,

“Assistance with a few questions regarding the assignments can help us complete the tasks. We can ensure that we are on the right track.”

S37 wrote,

“The lecture can prompt us...This will stimulate our thinking so that we can think deeper.”

4.2.1.4 Creating more opportunities for peer interactions

One participant suggested that the lecturer should create more opportunities for peer interaction. This would allow them to communicate with their peers and learn from them. S22 wrote,

“The lecturer could plan some group activities such as peer interaction. Our more experienced peers can support our learning too.”

4.2.2 Fixed Scaffolds

Fixed scaffolds are pre-designed resources that can facilitate student learning. The students expressed that they needed support from fixed scaffolds such as pre-recorded video, templates and work samples.

4.2.2.1 Provide various forms of learning resources

Ten participants mentioned that pre-recorded lessons, assignment guidelines, and templates could support their learning. For example, S17 and S21 explained,

“The lecturer had pre-recorded the guidelines for the assignments. I think this is helpful as I can watch the recording repeatedly.” (S17)

“The lecturer can also pre-record some lessons, especially the notes which are not discussed during the lesson hour so that we can better understand the content.” (S21)

The participants mentioned that work samples could serve as a reference for them to complete their assignments,

“Samples of assignments may be helpful.” (S22)

“It is good if we can refer to some sample assignments. It can help me gain a better idea on how to complete an assignment and how the end-product will look like.” (S34)

4.2.2.2 Improving the clarify of content

Three students expressed the view that the content of the learning resources, including the language, could be simplified to improve the clarity of the content. For example, S6 and S16 said,

“Provide simplified slides to enhance our understanding.” (S16)

“Improve the clarity of the content such as explaining the concepts using simpler language. Examples, figures and tables can be used to summarise the key ideas.” (S6)

4.3 Scaffolding Design Framework

Based on the needs analysis results, I designed multiple forms of fixed and adaptive scaffolds to facilitate online learning, as summarised in Table 2.

Table 2 Summary of Scaffolding Design

Types	Purpose	Scaffolding Strategies
Fixed scaffolds	Mastery of content knowledge	Lecture notes
		Learning Management System (e.g., Forum)
	Pre-recorded videos	
Adaptive scaffolds	Supporting completion of the assessment	Pre-recorded videos on the ways to complete the assignments step-by-step
		Question prompts on assessment brief
		Template
	Mastery of knowledge	Providing feedback
		Modelling
		Providing detailed explanations
		Paraphrasing
		Prompting
		Providing examples
		Creating spaces for peer interactions

The fixed scaffolds were designed for two purposes: to help the students (a) master the content knowledge; and (b) complete the three assessment tasks (e.g., writing a reflection, designing an assessment plan, and planning a group lesson). The description for each scaffold is presented in Table 3.

Table 3 Description of Fixed Scaffolds

Form of Fixed Scaffold	Description
Lecture notes	The lecture notes contain detailed explanations, examples, figures and tables for each topic (e.g., learning theories, different types of teaching methods etc.) to deepen students' knowledge.
Forum in Learning Management System (LMS)	The forum allows students to provide opinions and responds to the comments posted by their peers. Non-verbal interactions among students encourage them to construct knowledge through interactions.
Pre-recorded videos	The pre-recorded videos complement the lecture notes. It contains some examples to elaborate on the ideas/concepts presented in the handouts. The pre-recorded videos also provide step-by-step instructions to guide students in developing an assessment plan.
Question prompts in the assessment brief	Question prompts aim to stimulate student thinking and keep them focused on the key requirement of the assessment task.
Template	A template is used to help students develop the assessment plan. Students can create documents quickly within the scope of the assessment task.

Table 4 Summary of Adaptive Scaffolds

Scaffolding strategies	Description	Example
Providing feedback	Provide opinion, review, evaluation and suggestions for improving student work	Can you support your explanation with evidence from the classroom?
Modelling	Set an example for imitation	This is how you can develop a rubric for your student project. First, you should identify the performance criteria based on the learning objectives.
Providing detailed explanations/ Elaborating	Answer a question, provide more detailed information or clarification, and say something that adds to the information present in the discussion	To add to what we have discussed about the concept of object permeance at the sensorimotor stage, children will learn how to search for an object when they cannot see it.
Paraphrasing	Rephrase a statement using better-known words in response to students' language problem	In other words, "what else do you need to know so that you can design an effective lesson?"
Prompting	Ask for the next step, an example, of the understanding of a problem or content knowledge	You mentioned that the student-centred teaching approach has more advantages compared to the teacher-centred teaching approach. Why do you say so?
Providing examples	Propose a concrete example to deliberate an idea/ concept	Teachers need to consider their students' prior knowledge before they design a lesson. For example, It is inappropriate to teach energy conversion if students do not know the different types of energy.
Creating social spaces for peer interactions	Create group discussions for students to make their thinking visible and construct knowledge through interactions and active negotiation	Can you share with us how your group is going to design a differentiated lesson based on the scenario given?

In terms of adaptive scaffolds, some question prompts and sentence starters were drafted to reflect the common scaffolding strategies that could be used to address the challenges faced by the students (refer to Table 4).

5. DISCUSSION

This study investigated the challenges faced by postgraduate students during online learning and the scaffolds they desired in this learning context. In the next stage of this action research, the designed scaffolds will be implemented and evaluated to capture their effects on supporting online learning. Online learning requires students to have high self-management and self-regulated skills. Students reported that they poorly managed their time and were not able to complete all tasks on time (Jaradat & Ajlouni, 2021). In contrast, none of the participants in this study mentioned the issue of self-regulation. Based on the researcher's experience with the selected group of students, the students showed that they strived for their best to complete all the tasks on time.

Students need to equip themselves with IT literacy in the context of online learning. Similar to the previous studies (Adedoyin & Soykan, 2020), some participants were not IT literate. They faced some difficulties in navigating how to use an online application. A plausible reason is that countries such as China have strict restrictions on the use of online platforms, including Google, Twitter and Facebook (Li, 2018). The international students from these countries need to spend some time familiarising themselves with these popular platforms. To complicate the problem, these students need to use Virtual Private Network (VPN) to access the university's learning management system, making the learning resources less accessible to them.

The quality of online learning materials impacts student learning (Jaradat & Ajlouni, 2021). Consistent with a previous study by Jaradat and Ajlouni (2021), the participants thought that lengthy notes, notes with jargon and general guidelines for assessment were not helpful for their learning. They also indicated that a previous study found that students were less motivated to follow online lessons as they felt isolated when they learned alone. The participants in this study also explained that they wished to interact more frequently with their peers. However, in opposition to the motivation factor, the participants perceived that they could develop their knowledge through peer interactions (Cho & Cho, 2016; Kim & Lim, 2019). The challenges in terms of concentration and external inferences (Adedoyin & Soykan, 2020; Bringula et al., 2021; Jaradat & Ajlouni, 2021) were not found in this action research. The participants in this study paid more attention to the challenges related to learning and self-competency than the external factors.

This study revealed some new findings which are not reported in the previous studies. For instance, lack of teaching experience, critical thinking skills, and inability to apply knowledge also hampered their learning process. This module requires the students to understand pedagogies and assessments in order to relate their knowledge to real-world classrooms. The participants who joined this module without prior teaching experience found it challenging to make real-life connections. Students used to conventional teaching are prone to demonstrate knowledge and content rather than higher-order thinking skills (Farha Alia Moktar, 2016). Besides that, students who did not own a bachelor's degree related to education found it hard to develop a sound conceptual understanding of the topics.

In agreement with a previous study by McNeill and Krajcik (2009), the research findings indicated that students needed both fixed and adaptive scaffolds to address their challenges.

Pre-designed fixed scaffolds lack the element of responsiveness and contingency compared to adaptive scaffolds (Saye & Brush, 2002). The participants mentioned that they needed detailed explanations from the teachers and visual materials (Chen, 2021; Kim & Lim, 2019). Model answers and work samples can reduce students' cognitive load and help them construct solutions for a problem (Chen, 2021; Kirschner et al., 2006). The participants perceived that guiding questions and feedback would be helpful in supporting their learning. Guiding questions and question prompts can explicitly guide students to achieve a shared understanding of the goal of a task (Gerard & Linn, 2016; Puntambekar & Kolodner, 2005). Encouraging student participation in discussion allows students to merge the ideas of different individuals, which leads to the development of coherent understanding (Gerard & Linn, 2016; Puntambekar & Kolodner, 2005; Suhaida Halamy et al., 2021).

6. CONCLUSION

Keeping up in the digital age is essential for online learning, especially during the COVID-19 pandemic outbreak. Teachers need to make rapid changes in the curriculum, and the delivery methods to address the challenges learners face in these complex online classroom conditions (Farha Alia, 2016). This study provided insight into the challenges faced by postgraduate students and the scaffolds they needed. Both fixed and adaptive scaffolds are necessary to facilitate student learning as they work synergistically to complement and interact with each other in a concerted way to facilitate a targeted goal (McNeill & Krajcik, 2009). Understanding students' learning needs is essential to ensure that the scaffolds designed are adequate to support student learning (Puntambekar & Kolodner, 2005). The findings from the needs analysis helped the researcher design different forms of fixed and adaptive scaffolds to support online learning. Although the challenges explained by the students may only represent the period of campus closure during COVID-19, this research shed light on students' perceptions of scaffolding in a unique period in higher education. The findings may be helpful in designing scaffolding in similar learning contexts. In the next course of action, the researcher would implement the designed scaffolds and evaluate their impacts on supporting students' online learning.

This study has several limitations. First, the qualitative data was collected through a questionnaire. Most of the responses were brief without any elaboration. An in-depth explanation needs to be collected using interviews to understand better how each type of scaffold can support student learning. For future studies, the researcher can collect the data using a few methods such as questionnaires, interviews and video recordings for data triangulation. The second limitation is related to the instrument. The instrument only consisted of two open-ended questions focused on the student's challenges and the types of scaffolds they needed. The data analysis found that the students did not explain their challenges from different aspects. Some students discussed the challenges of the content, whereas a few explained the challenges in completing the assessment tasks. In the future, the instruments could be redesigned to understand the challenges faced in different aspects such as lesson content, delivery methods and assessment. Thirdly, this action research was conducted during the COVID-19 pandemic when all the students joined the lessons virtually. Now, most universities have started to conduct hybrid learning. Hybrid learning combines face-to-face and online learning simultaneously (Ackerman, 2008). Students may face different challenges in a hybrid learning context. This research can be extended to hybrid lessons to better support students in this learning context. In addition, future studies may focus on developing an adaptive scaffolding pedagogy for different immersive learning settings such as blended learning and online learning to facilitate student learning better.

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The single author wrote the paper and did all the work. She wrote all the sections that constitute the entire article from Introduction to Conclusion.

DECLARATION OF CONFLICTING INTERESTS

The author declares that there is no conflict of interest.

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APPENDIX

Appendix 1 Interview Questions

Section A: Participant Information

Tick (✓) your answer.

1.

Gender	<input type="checkbox"/>	Male
	<input type="checkbox"/>	Female
	<input type="checkbox"/>	Prefer not to say
Status	<input type="checkbox"/>	Local student
	<input type="checkbox"/>	International student

Section B: Perception of Online Learning

1. What are the challenges you face during online learning?
2. What kind of scaffold can the lecturer provide to address the challenges you face?

AUTHOR BIOGRAPHY

LEE Yee Ling (Ph.D.) received her PhD in the field of Instructional Technology from the University of Malaya. She is currently a lecturer at the School of Education, Taylor's University, Malaysia. Her main research interest is in science education, particularly scaffolding, pedagogy and design of learning modules.

Service Quality Attributes Influencing Spa Goers' Satisfaction in Kuala Lumpur, Malaysia

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ABSTRACT

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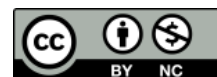
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Wellness Tourism has become a booming niche product of tourism. The Malaysian government views the spa industry as a catalyst to boost the economy. Somehow, the empirical study on the satisfaction of spa-goers specifically in Malaysia is limited to knowing which service quality attributes can help the spa owners focus on and sustain the business. Thus, this study aims to examine the relationship the service quality attributes to spa-goers satisfaction as a catalyst to help the spa owners to improve the business according to spa-goers' expectations. An empirical study was conducted with 365 spa-goers ranging from 18 years and above who have enjoyed any services in spa centres in Kuala Lumpur. Self-administered questionnaires were given at 59 spas registered under the Ministry of Tourism and Culture. Data analysis was performed using SPSS and PLS-SEM. Resultantly, service quality attributes' reliability, empathy, and assurance of spa providers positively affect the spa-goers satisfaction when choosing a spa centre. This study provides spa owners to re-formulate the strategies to retain their customers and be sustained in the spa industry. However, this study is limited as the findings were based on spa centres located only in Kuala Lumpur only, Thus, the study can be replicated as future research in other states for a wider and comprehensive understanding of spa-goers and it will expand the knowledge in the spa industry.

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1. INTRODUCTION

The aim of travel has broadened to the point that it supersedes just only to derive pleasure. Individuals search for relaxation in places where their quality of life will be improved. The motive of modern-day visitors is far more concerned with their health and fitness when away from daily stressors. Hence, Benner, King, and Milner (2004) proposed Health Tourist, which includes pleasure-oriented services with an element of stress relief and is a niche sector in the tourism business. There are two forms of health tourism: medical tourism and wellness tourism. According to the Global Wellness Institute, the wellness tourism sector was a \$639 billion global business in 2017, accounting for approximately 14% (\$438.6 billion) of all domestic and international tourist expenditures and expanding twice as fast as overall global tourism (He et al., 2021). These may be noticed in the global spa industrial activities, which actively advance the spa business to the next level of the relentless globe with a new era of more provident and advantageous people groups. The Worldwide Spa and Wellness Summit (GSWS) has been administering the global spa sector to enhance the quality of services that engage all levels of stakeholders by discussing both regional and global levels (Hashim et al., 2019). The spa industry is thriving because spa treatments may be traditionally practiced to assist visitors to revitalise their body, mind, and soul. Although some visitors regard spas as luxury products they do contain the necessary attributes that lead to spa visitation, which includes personal space, escapism, time away, and retreat (Cohen & Bodeker, 2019). Asia has been a popular spa destination and a thriving industry given the traditional methods, which include the use of natural treatments. Surprisingly, the future of the wellness sector will be as bright as predicted by the Global Wellness Institute (2017).

Since the Asian financial crisis in Southeast Asia in 1997, wellness tourism, a specialty product, has been recognised as a spinning money business (Okech, 2014). Wellness tourism is also viewed as a positively developing sector. Malaysia will not be left behind and will seize this chance to boost wellness tourism, particularly the spa business, to attract this sort of specialised market. According to Hashim et al. (2019), Malaysia is well-known for the development of health tourism due to its traditional therapies which are the oldest treatments worldwide. The attractive medical tourism packages have made Malaysia one of the most competitive spa and wellness tourism destinations in Asia. Although the spa business is critical to the country's beneficiaries, spa owners or managers must be inventive and competitive to stay in the service industry. Since services are ethereal and most experienced, they are difficult to quantify (Jamshidi & Keshavarz, 2018). According to Jamshidi and Keshavarz (2018), poor service quality might result in a loss of 12% of customers. Fiesolem, a spa customer, wrote a complaint on the Trip Advisor website about his negative experience. The customer stated that the treatments received made him pick another spa and not return to the facility (Trip Advisor, 2018). Hence, it is critical to provide good services to boost a customer's perceived value and satisfaction. Apart from that, the peculiarity of the spa industry has been disregarded with just a few research contributing to the spa literature (Lagrosen & Lagrosen, 2016). Furthermore, research on service quality aspects that enhance happiness and contribute to the survival of spa enterprises has received little attention (Lagrosen & Lagrosen, 2016). Hence, this study aims to the relationship between service quality and customer satisfaction.

2. LITERATURE REVIEW

2.1 Wellness Industry

Wellness is defined by the Global Wellness Institute (2022) as the active pursuit of activities, choices, and lifestyles that lead to holistic health. This definition has two significant features.

First and foremost, health is not a passive or static condition, but rather an "active pursuit" including intentions, decisions, and actions. Second, wellness is connected to holistic health, which includes physical, mental, emotional, spiritual, social, and environmental aspects in addition to physical health. While Wellness tourism is defined as travel aimed at preserving or improving one's well-being (Global Wellness Institute, 2022). Global Wellness Institute (2022) also stated that North America, Europe, and Asia-Pacific are the three regions with the most wellness tourism. In 2020, the United States accounted for 19% of all trips and 37% of all spending. The top five nations (the United States, Germany, France, China, and Japan) accounted for 64% of the worldwide market, while the top twenty accounted for 87%. Given that they were more severely impacted by the epidemic (Indonesia and Russia), or had weaker tourist development and/or economic volatility even before the outbreak, some nations slipped out of the top twenty in 2020, including Brazil and Russia. In 2019, wellness travellers took 936 million international and domestic wellness excursions, up to 145 million from 2017, before dropping to 601 million in 2020. In 2020, wellness vacations accounted for 6.5% of all tourist trips but 16.2% of all expenditures. This is because wellness tourists spend significantly more on each trip than ordinary travellers.

2.2 Spa Industry in Malaysia

Spas are defined as institutions that promote well-being via the provision of therapeutic and other professional services aimed at regenerating the body, mind, and spirit, according to the Global Wellness Institute (2022). While Asia-Pacific continues to have the most spas, Europe has the greatest spa income. The spa sector grew at a quick pace from 2017 to 2019, reaching \$110.7 million in sales and 165,714 spas in 2019. This reflects an increase of 8.7% in yearly sales, owing to increased consumer earnings, continued tourism expansion, and a growing willingness to spend on wellness-related items. Malaysia is geographical, surrounded by Indonesia, Brunei, Singapore, and Thailand as a cross-border country and made up of two regions (1) Peninsular Malaysia which lies between Singapore and Thailand, and (2) East Malaysia across the South China Sea on Borneo Island. Interestingly, Malaysia has a tropical climate which is generally warm and rainy season throughout the year with temperatures ranging from 21° to 32° Celsius. Another point is Malaysia has prominent and beautiful beaches and islands are some of the factors that attract tourists coming to the country. The greatest strength of Malaysia is the friendliness of multicultural citizens who always be hospitable to tourists who come to Malaysia. Due to the natural treatments and remedies, the wellness segment is showing a positive progression which grew by 10% in 2014, the government of Malaysia hopes to develop the spa industry further to attract visitors with the money and inclination to spend on luxurious experiences.

The Star Online (2019), in the heading news of '*A Refreshing Take on Wellness,*' has interviewed Samantha Pang, the founder, and director of Vita Spa, a Malaysia-based spa. In the interview, she said there is demand as people in this millennial era are busy working to support their living and believe massage and spa services are vital to support balancing their lifestyles. The emergence of the spa industry assists Malaysia in becoming a top tourist destination in Asia. Tourists choose Malaysia not just to unveil the beauty of the country's culture but also to engage and relax with the natural resources that Malaysia provides to tourists. However, despite all these positive emerging spa reviews, Malaysia is still lacking studies on the service quality of spa establishments to the spa-goers' satisfaction. Therefore, from the problem statement, the issue has been stated by one customer about the negative experience that he has encountered apart from the positive progression of the spa industry in Malaysia. Thus, this study is important to look back at all the necessary service quality offered by the spa owners really meet the spa-

goers' satisfaction so that the spa industry will be sustained forever and makes Malaysia a top global destination in the World.

2.3 Customer Satisfaction

Customer satisfaction is something that is taken very seriously nowadays. Customers are less likely to patronise a specific service or business if they had previous disappointing experiences. Satisfaction is defined as a net positive experience that arises from consumers' impressions of a service provider's actual provisions in proportion to their expectations of the service (Marinkovic & Kalinic, 2017). According to Dewi et. al. (2022), customer satisfaction can be in the form of anger, irritation, dissatisfaction, joy and pleasure. The customer is not only a part of the actual consuming process in the hospitality industry but he or she also has pre-determined service and quality expectations. Customers in the hospitality industry today are more time-pressed, smart, and demanding than ever before (Anwar, 2017). Before implementing management tactics to increase service quality, it's important to know where your customers come from and what degree of satisfaction they anticipate. Satisfaction is a critical aspect of a company's product since it measures the degree of expectation between the company's offering and the expectations of its customers. Customer satisfaction has an impact on both the company and the product because satisfied customers imply more products and profits (Copley, 2017; Akoi & Yesiltas, 2020). It has also been discussed previously. The product quality and services that firms deliver to their customers have an impact on customer satisfaction.

2.4 Service Quality

The Service Quality (SERVQUAL) Model is a framework for measuring and capturing customer service quality. According to Abdullah and Afshar (2019), quality is an elusive and muddled idea. It is critical to distinguish between products and services due to their distinct qualities. Because services are intangible, it is difficult for suppliers to describe them and for consumers to assess them (Ali et al. 2021). The SERVQUAL model has proven that the most dominant components of a service sector are the most dominant components of customer satisfaction (Yi and Nataraajan, 2018). It has been applied in many service sectors and focuses on different aspects of service quality. Various scholars have developed several relevant service quality definitions. The difference between a customer's expectation of a service provider and their appraisal of the services is referred to as service quality (Ali et al. 2021). The success or failure of a hospitality firm is determined by the cumulative impact of service interactions in which consumers take part (Abdullah, 2018). Given the diverse claims made by different researchers, quality is a little more difficult to quantify than consumer satisfaction. Consumer impression is influenced by two aspects, according to (Anwar & Abdullah, 2021), such as expectations and quality standards. Various research has been conducted to uncover aspects of service quality that most significantly contribute to basic quality assessments in the service environment. According to Parasuraman et al. (1985), there are 10 service quality dimensions. These dimensions fit as a service quality field from which these SERVQUAL model elements were obtained. After further refining, five parameters for evaluating service quality as mentioned by Kim (2021) which is, tangible, reliability, responsiveness, assurance, and empathy. The five dimensions of service quality and their concise definitions are presented in Table 1.

Table 1 Service Quality Dimensions

Dimensions	Explanations	Sources
Tangible	the physical facilities, equipment, employees, and communication materials' appearance	Ali et al. (2021)
Reliability	Service provider's capacity to offer consistent and accurate service.	Ali et al. (2021)
Responsiveness	The organization's preparedness to resolve difficulties that arise and its capacity to deliver prompt service	Ali et al. (2021)
Assurance	Employees' civility and knowledge, as well as their capacity to inspire trust and confidence	Ali et al. (2021)
Empathy	Paying specific and sincere attention	Kim (2021)

2.5 Service Quality and Satisfaction

The SERVQUAL model has demonstrated that the most dominant components of a service sector are the most dominant components of customer satisfaction (Yi and Natarajan 2018). It has been applied in different service industries and focuses on different dimensions of service quality to analyse the relationship between customer satisfaction and various aspects of service quality. According to Lagrosen and Lagrosen (2016), the proposed service quality dimension in the spa study is different from the service marketing literature. Customer satisfaction is inversely proportional to service quality (Rigopoulou et al., 2008). It is simply "the level of quality of products and services provided to customers, as well as their level of service satisfaction" (Kim, 2021), and it is "the result of a comparison between consumers' perceptions of perceived and expected services, as well as the functional relationships among variables such as technical quality, functional quality, and image" (Prentice and Kadan, 2019).

Service quality is an important and prominent aspect in consumer-centred company organisations, according to Omar et al. (2021) and Blut (2016), while Kim (2021) describes it as a dynamic factor in the customer satisfaction model. A previous study by Lagrosen and Lagrosen (2016) also found that there is a reason to believe there are some differences in the service quality dimension of spa-goers from different cultural backgrounds. Supported by Chea (2022) study of Cambodia's Spa Industry, service quality has the greatest influence on customer satisfaction. Meanwhile, a recent local study conducted in 2020, during the COVID-19 outbreak in Malaysia, found that there is a significant association between staff service quality as well as ambiance with spa customer satisfaction (Suria et al., 2020). In line with that, Mohamad et al. (2021) believes that the spa industry needs to reconstruct itself to make sure the spa industry will stay relevant in Malaysia's context and become the top destination for global wellness. Therefore, the following hypotheses and study framework are proposed:

- H1: There is a significant relationship between tangibility and customer satisfaction.*
- H2: There is a significant relationship between responsiveness and customer satisfaction.*
- H3: There is a significant relationship between reliability and customer satisfaction.*
- H4: There is a significant relationship between empathy and customer satisfaction.*
- H5: There is a significant relationship between assurance and customer satisfaction.*

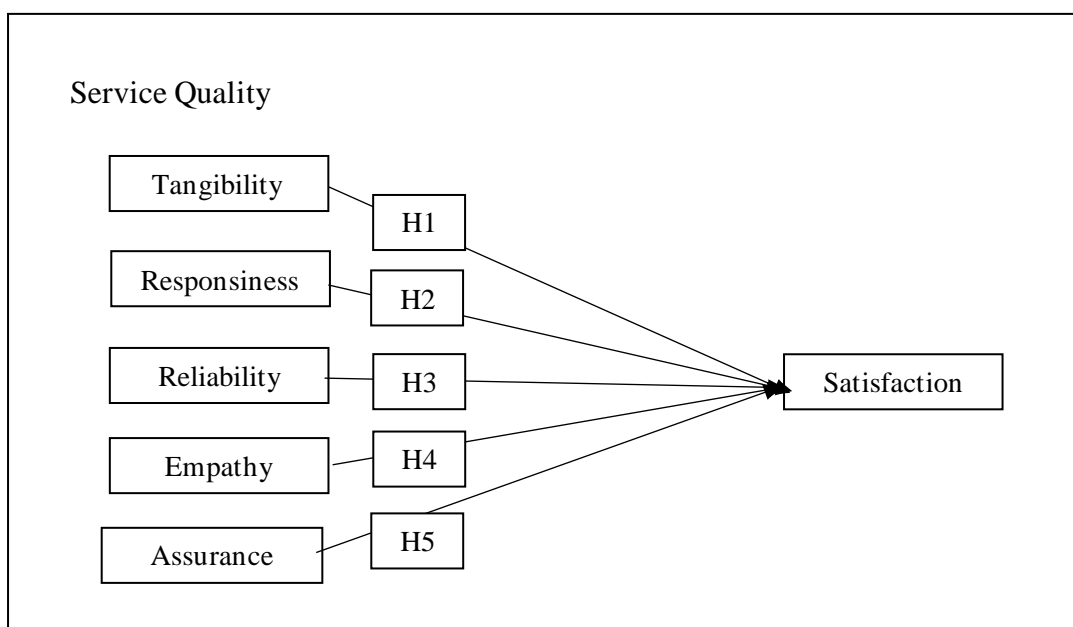


Figure 1 Proposed Research Framework

3. METHODOLOGY

The study was based on a quantitative, non-experimental, and cross-sectional approach conducted in a non-contrived setting. To achieve the research objective, the correlational study data through primary data was applied. Simple random sampling was used in data collection through a self-administered questionnaire. The study targeted 18 years old and above spa-goers in Kuala Lumpur, Malaysia. There are 59 spas available in Kuala Lumpur which are rated by the ministry of tourism and culture (MOTAC), ranging from two-star to five-star ratings. The spas were divided into five geographical location groups to ensure the data generalisability of the study. The questionnaire was distributed around participating spas according to the designated geographical location group and rated spa by MOTAC. A total of 365 responses were involved in hypothesis testing. The minimum sample size required in this study was 300 samples aligning with a total of 30 survey items used in the data collection (Hair et al., 2010). Therefore, a minimum sample size for the study was achieved. The study was mainly analysed using the statistical package for social sciences (SPSS) and PLS-SEM through SmartPLS software. The questionnaire used in this study comprised a total of six sections, namely (1) tangibility, (2) reliability, (3) responsiveness, (4) assurance, (5) empathy and, (6) customer satisfaction (Liu, 2013; Kwon, 2015; Cheung, 2012; Giritlioglu, Jones & Avcikurt, 2012). The survey item measurements used by the study were adopted and adapted from previous scholarly work according to analyses and critical literature reviews.

3.1 Respondent Profile

Based on the descriptive analysis conducted, females recorded the highest response in the survey participation with 64% (n = 223), whereas males were only 36%. The respondents in this study were mainly 26-29 years old (31.5%), followed by 22-25 years old (31.5%), and 30-34 years (15.3%). Respondents who were between 18-21 years old and 35 years old and above represented 9% of the samples. Additionally, a higher proportion of the respondents attained a Bachelor's degree 43.6% (n = 159), 20.3% (n = 74) with Diploma, followed by Master's Holders (14.8%; n = 54), SPM certificate (5.5%; n = 20), others (5.5%; n = 20) and PhD. Holders (3.8%; n=14). Most of the respondents (n = 112) had a monthly income of RM1000 and below, followed by those earning RM2001-RM3000 (21.1%; n = 77), and RM4001-RM5000 (10.7%;

n = 39). The majority of respondents were Malaysians (64%; n= 236). The majority of respondents rarely go to the spa centre (59.5%; n = 217), whereas 117 of them go to the spa centre once a month and 6.3% visit the spa twice a month. Besides, most of the respondents spent between 1 and 2 hours at a spa centre 1-2, 34% of them spent less than one hour only 9 respondents spent more than four hours.

3.2 Reliability and Validity Analysis

Model measurement was conducted purposely to confirm the reliability and validity of the instruments. Based on table 2, all of the constructs score an excellent Cronbach's alpha of 0.60 and above. Moreover, the composite reliability of the constructs similarly scored an excellent level. The composite reliability of the constructs scored more than 0.70 suggesting good reliability (Hair et al., 2017). Additionally, the average variance extracted (AVE) of all constructs scored more than 0.50. Thus, convergent validity is achieved (Hair et al., 2017).

Table 2 Reliability Analysis

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Assurance	0.987	0.989	0.95
Customer satisfaction	0.987	0.989	0.949
Empathy	0.980	0.984	0.925
Reliability	0.981	0.985	0.931
Responsiveness	0.983	0.987	0.937
Tangibility	0.958	0.967	0.856

3.3 Hypotheses Testing

Figure 1 shows the direct path hypothesis testing of the study conducted through 2000 bootstraps subsamples and a 95% confidence interval. The indicators in determining the relationship tested were (*p*-value (below 0.05) and *t*-value (more than 1.96 [two-tailed test]) which proved a statistically significant relationship as stated by Hair et al., (2017). The analysis found that out of the five hypotheses tested, only three were significant (reliability, empathy, and assurance) toward customer satisfaction. Tangibility and responsiveness were found to be statistically insignificant toward customer satisfaction as the score *p*-value exceeded 0.05 and the *t*-value scored less than 1.96. So, H1 and H2 are not supported. On the other side, reliability was found to be statistically significant toward customer satisfaction ($\beta = 0.128$, $t = 2.075$, $p = 0.000$). When reliability increased by 1 standard deviation, customer satisfaction increased by 0.128. Therefore, H3 was supported. In addition, H4 was supported as the analysis indicated a positive and statistically significant relationship between empathy and customer satisfaction ($\beta = 0.441$, $t = 7.216$, $p = 0.000$). When empathy increased by 1 standard deviation, customer satisfaction surged by 0.441. Lastly, H5 was also supported whereby the analysis indicated a positive and statistically significant relationship between assurance and customer satisfaction ($\beta = 0.263$, $t = 3.644$, $p = 0.000$). When assurance increased by 1 standard deviation, customer satisfaction also increased by 0.263. The coefficient of determination (R^2) of the research model is 0.924 which means the model only explains 92.4% of the variance. Table 3 shows the results of the hypothesis testing.

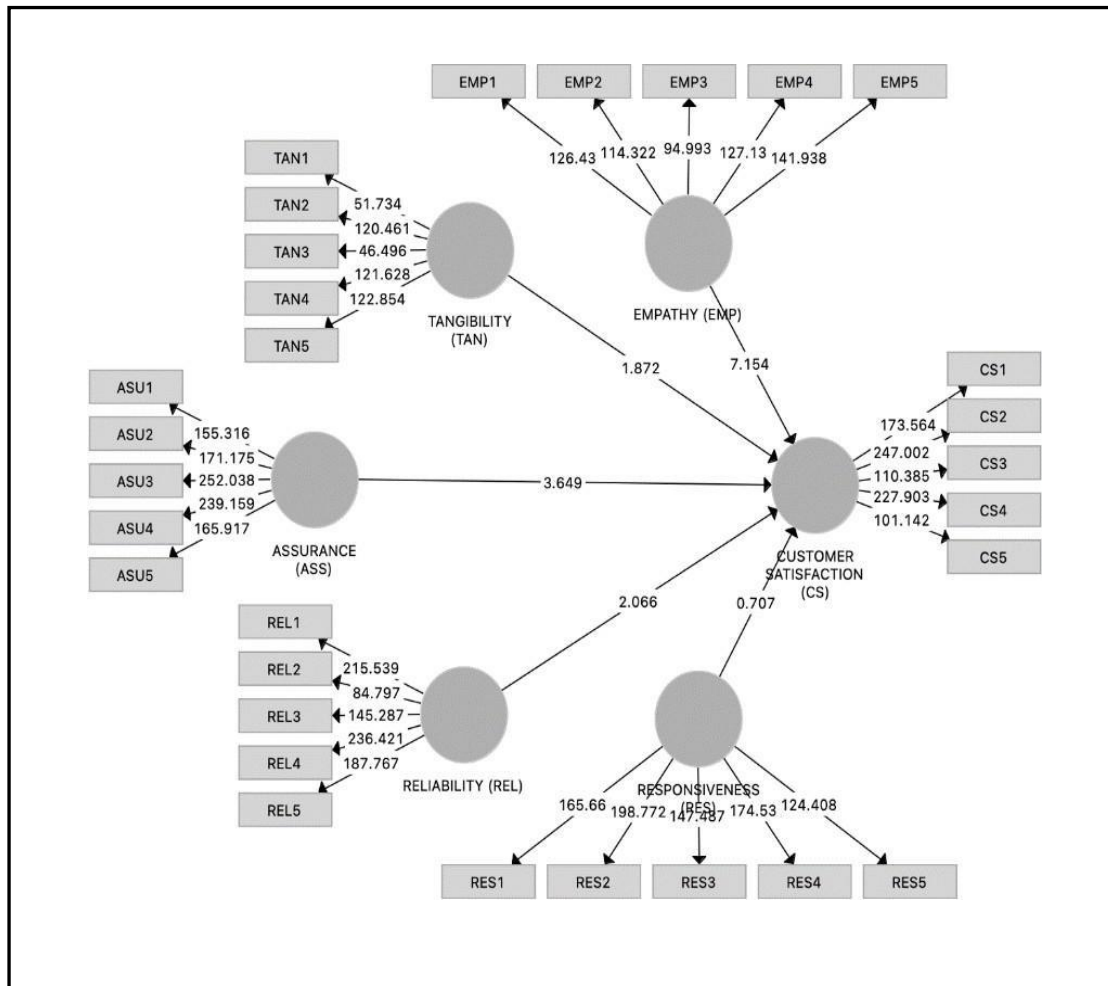


Figure 2 The Structural Equation Modelling Analysis

Table 3 Results of the Hypothesis Testing

Hypothesis	Path Coefficient	STDEV	<i>t</i> -value	<i>p</i> -value	<i>R</i> ²	Decision
H1	0.103	0.054	1.892	0.059		Not Supported
H2	0.052	0.073	0.708	0.479		Not Supported
H3	0.128	0.062	2.075	0.038	0.924	Supported
H4	0.441	0.061	7.216	0.000		Supported
H5	0.263	0.072	3.644	0.000		Supported

4. DISCUSSION

The aim of this research is to examine the relationship between service quality and customer satisfaction among spa customers in Kuala Lumpur. The results showed that out of five hypotheses, only three were statistically significant. Tangible and responsiveness were found to be not significant toward custom satisfaction, which is different from Rigopoulou et al. (2008) study, where all the service quality attributes had a positive effect on satisfaction. The tangibility aspect of spa services probably did not directly influence customer satisfaction as spa and wellness services are mainly perceived as emotionally perceived services. Indeed, the

services are mainly connected to the intangible aspect of services. Thus, the tangibility or physical aspect of services is not the primary reason for a customer to visit a spa for treatment. Additionally, responsiveness is not statistically significant toward customer satisfaction, probably because of the nature of the spa services themselves. Unlike other forms of services such as restaurants, spa services are mainly associated with a personal experience and pre-booking method of handling customers and crowds, purposely to ultimately satisfy the spa customer. Thus, the personal experiences of spa customers have generally become standard in the industry. The calmness of the environment and staff treatment also probably justified the insignificant relationship between responsiveness and customer satisfaction as most of the spa services use pre-booking systems for treatment.

On the other hand, reliability was found to be statistically significant toward customer satisfaction and this is supported by Chea's (2022) study, which found that this attribute has a great influence on customer satisfaction. As spa services are considered personal services and equipped with a certified staff (spa expert), the reliability of the promised services significantly influences customer satisfaction. It probably justified the finding. The promised services, such as health product use (massage oil, face location, body location, and others), normally become one of the important selling points for the spa and are used in the marketing activity of the spa. Thus, the reliability of the promised services influences customer satisfaction.

Empathy was found to be statistically significant in customer satisfaction. As spa services can be classified as personal experience services, the empathy of the spa staff significantly influences customer satisfaction. The capacity to feel or experience what another person feels or experiences by picturing what it would be like to be in that person's shoes is a part of emotional intelligence, which holds a strong connection and relationship with the customer. It probably justified the finding. Moreover, the personalised services given by the spa staff will strengthen the emotional attachment and empathy between the customer and the spa staff, and this is supported by the study of Suria et al. (2020), where the service quality of staff is significant in customer satisfaction, especially empathy.

Lastly, assurance was also proven to be significant statistically toward customer satisfaction, and this result is similar to a past study by Omar et al. (2021), who believe that assurance is one of the prominent aspects of service quality attributes that lead to customer satisfaction. The knowledge and decorum of employees are crucial to eliciting trust and confidence among spa customers. Customers anticipate that businesses will be industry leaders in the services they provide. It helps reassure customers that they can trust the spa. It will also lead to positive word of mouth and customer testimonials. It probably justified the finding.

To recap on the methodology part, the service quality attributes do affect the spa-goers' satisfaction. Interestingly, from the Malaysian perspective, the result shows that reliability attributes, assurance attributes, and empathy attributes are the most concerning factors in their satisfaction with spa establishments. Most of the respondents want the spa providers to reassure them that they can use all the spa facilities and feel safe, especially regarding their privacy matters. On top of that, spa-goers also want the services to be delivered according to their preferences. Lastly, the spa providers should know about customer well-being and the spa industry, it is supported by Mohamad et al.'s (2021) article that the spa industry needs to reconstruct itself to ensure the spa industry will stay relevant.

Consequently, the findings of the study could be useful to spa owners or spa managers to re-strategize their marketing plan to maximise their revenue and minimise the cost on which

attributes to focus as the tangibility attributes and responsiveness attributes do not cause any effect on the spa-goers satisfaction. Apart from that, the spa owners or spa managers could do an investigation on the dissatisfied spa-goers to improve the current service so that it could meet the spa-goers' needs and expectations. Last but not least, the findings could help to extend the body of knowledge of the spa industry from the Malaysian perspective as the country has multiracial residents.

5. CONCLUSION

As every spa entity lies in the hospitality and tourism industry, the need of winning customer satisfaction is very important to serve a customer like a king of the world. Dealing with a human is very crucial as it involves services that help a business to succeed. A good service can retain its customers to increase the business profit and the role of customer satisfaction is vital for any business entity as it becomes a benchmark for a successful business. Therefore, spa owners need to monitor all the attributes of service quality as it has a direct impact on the customer's satisfaction. The spa owners should recognise the potential changes in the customer demands and always innovate their services, so the customer feels worthy of attending the spa centre and being satisfied. Further studies can be carried out as the current study is focused on service quality as the independent variable. However, many other possible factors may influence customer satisfaction as a spa-goer, hence it may be possible to provide deeper insight into the factors those spa owners need to stress their total offering. By considering aspects, the addition of more independent variables such as brand image could be desirable for future research to assess the brand image of spa entities influencing customer satisfaction.

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AUTHOR CONTRIBUTION STATEMENT

AMG and MSZ conceived and planned the experiments, carried out the experiments and data preparation. MSAL planned, carried out the simulations and contributed to the interpretation of the results. MZZ took the lead in writing the manuscript. All authors provided critical feedback and helped shape the research, analysis and manuscript.

DECLARATION OF CONFLICTING INTERESTS

The author declares that there is no conflict of interest.

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Factors Contributing to Volunteer Smartphone Patrol App Adoption in Community Policing

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ABSTRACT

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Social media platforms are becoming increasingly vital for businesses and non-profits alike. These advantages should translate well for police departments' use of social media. Even though many police departments have widely used social media in criminal investigations, many still could not adopt it effectively as it does not provide an exclusive platform for engagement and interaction between the citizens and the police. Meanwhile, the advancement of technology, particularly in digital media, has improved relations between police and citizens by incorporating people into policing activities through Community Policing (CP) mobile applications. Malaysia was not left behind in adopting the CP mobile application as it has its own Volunteer Smartphone Patrol (VSP) application supporting community policing activities, especially crime prevention. The engagement and interaction between citizens and police through VSP for crime prevention has assisted the transition from traditional policing to CP more effectively. This study aims to discover the factors contributing to the VSP app adoption by citizens in community policing. Using a case study design, salient discoveries were obtained through in-depth interviews with 9 VSP users in Klang Valley. The NVivo 12.0 software was used in the process of open, axial and selective coding. The thematic analysis was used to analyse the data. This study found that the factors contributing to the VSP app adoption by citizens in community policing are practicality, responsiveness, surveillance, and security.

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1. INTRODUCTION

The Eleventh Malaysia Plan 2016-2020 outlined a key objective of reducing crime by 5% annually while focusing on increasing public perception of safety from 39% in 2014 to 60% in 2020. In the Twelfth Malaysia Plan 2021-2025, it was revealed that based on the performance of the Eleventh Malaysia Plan, five of ten targets were achieved; among them were index crime cases, which was reduced to 194 cases instead of the initial target set at 342 cases per 100,000 population and perception of being safe with 60.6% instead of the initial target set at 60% (Economic Planning Unit of Malaysian Prime Minister's Department, 2021). The Twelfth Malaysia Plan also highlighted that crime prevention measures would be stepped up by implementing various programmes involving RMP, Civil Society Organizations (CSOs), the private sector, and the citizens. Collaboration with these parties will boost community policing (Economic Planning Unit of Malaysian Prime Minister's Department, 2021). The goal of reducing and preventing crime should be pursued consistently by all parties to ensure Malaysia's safety, as crime can occur at any time and in any location.

The Royal Malaysia Police (RMP) has a total of 137,574 officers and staff, which explains the breadth of their duties and responsibilities, from the General Tasks, which perform traditional police functions standing side by side with the civilians, to the General Operations Force performing 'non-regulatory' functions such as preventing illegal immigrants from entering and combating terrorism (Urus Setia KPN Komunikasi Korporat, Ibu Pejabat Polis Diraja Malaysia Bukit Aman, 2022). Preventing crime is not only the responsibility of the RMP and other law enforcement agencies in Malaysia but everyone. It is quite impossible to rely solely on the RMP when we know that citizens outnumber law enforcers. Thus, the RMP is aided in satisfying the public's trust and obligation by support organisations comprised of Supplementary Police, Police Volunteers, Auxiliary Police, Police Cadets, and civil servants, which have a substantial impact on the country's security and well-being. Hence, there is no exception for the citizens not to get involved with crime prevention.

The new community policing initiative by RMP, Volunteer Smartphone Patrol (VSP), was first introduced on 19 May 2016 during the National Blue Ocean Strategy Conference (NBOS) in Putrajaya. RMP then launched VSP mobile application in July 2018 under the Department of Crime Prevention and Community Security or Jabatan Pencegahan Jenayah dan Keselamatan Komuniti (JPJKK), which aimed at fostering strategic collaboration with community participation and interaction in the fight against crime (Harun et al., 2018). VSP is a continuation and development of RMP's earlier community policing programme, *Rakan Cop*, but with more sophisticated technology capabilities. With the establishment of VSP in Malaysia, the community is no longer required to visit a police station, phone the RMP hotline at 999, or even send an SMS to report a crime, as was previously the case with *Rakan Cop*. Instead, they can easily report crimes and channel information to the police with various advanced functions such as sharing photos, videos and GPS coordinates of the crime scene straightaway from their mobile phones.

Although the VSP programme has expanded the community's bilateral communication with the RMP, some people remain unwilling to testify in a police case. Meanwhile, many civilians are averse to disclosing information to authorities, fearful of being identified or targeted by criminals. According to King (2016), numerous citizens desired anonymity out of fear of being identified with or risking reprisal when using the Community on Patrol app (COP) developed by the Miami-Dade Police Department (King, 2016). Nevertheless, there is evidence that information and communication technologies (ICTs) help to improve e-policing and digital civic engagement with much Human-Computer Interaction (HCI) research focusing on online

community usage behaviour, social media e-policing systems, and the development of new technologies that facilitate community engagement in policing (Park et al., 2017). As indicated in the Twelfth Malaysia Plan 2021-2025, the community participation and volunteerism programmes provided citizens with opportunities to safeguard the nation and uplift the spirit of togetherness in combatting crimes. In 2020, a total of 837,728 volunteers registered under the Volunteer Smartphone Patrol (VSP) programme to assist in the crime prevention (Economic Planning Unit of Malaysian Prime Minister's Department, 2021). Thus, this study aims to discover the factors contributing to the VSP app adoption by citizens in community policing.

2. LITERATURE REVIEW

Engagement is of essential significance in human-machine interaction, shaping the design and implementation of interfaces and allowing more complex, user-adaptive interfaces (Oertel et al., 2020). This is especially true when the interface is a virtual or robotic agent communicating with human users. On the other hand, Doherty and Doherty (2019) indicated that engagement has also been positioned as a characteristic of interaction rather than a property of states or mediators. Meanwhile, an exchange can refer to the activities and relationships between states, agents, and objects at certain points in time or across a period which is frequently used as a direct proxy for engagement in the engagement literature, connecting engagement to a scale of use with interaction as the unit of measurement (Doherty & Doherty, 2019). This suggests that engagement and interaction are always contextualised in the same way they represent and are related.

On the concept of engagement and interaction via mobile apps, Pantano and Priporas (2016) indicated that many branded mobile apps have effectively engaged customers by increasing virtual connectivity and boosting context-dependent features of advanced mobile technologies. Additionally, Kim and Baek (2018) argued that from the mobile app engagement, the quality of motivational experiences customers have while connecting with a mobile app and the extent to which those experiences meet their functional, experiential, and social expectations can be observed. Since both studies focused solely on engagement and not interact with the mobile apps, distinguishing the line between these two in mobile application adoption is also as challenging as the other contexts because it has always been contextualised in the same way.

Previous empirical studies demonstrate that crime prevention requires a comprehensive system and consistent momentum to effectively control and prevent crime (Harun et al., 2018). Technological advancements, particularly in digital media, have enhanced interactions between police and people by involving them in policing activities, a practice known as Community Policing (CP). However, the study only discussed the function of the VSP app as an information distributor among people and lacked the identification of the contributing factors behind their adoption. Thus, this present study needs to discover the factors contributing to people adopting this app in community policing.

Despite widespread adoption and investigation of the concept of CP, there are barriers to transitioning from traditional policing to CP (Park et al., 2017). However, it is observed that police departments in several countries have demonstrated the effectiveness of community policing through mobile applications, including Australia's 'Neighborhood Watch,' Canada's 'Base Team Policing,' Japan's 'Koban' system, Indonesia's Community Development and Order System, and Singapore's 'Neighborhood Police Force' (Harun et al., 2018). In Malaysia, the RMP leadership has emphasised the need for 'Community-Oriented Policing' to achieve maximum safety sustainability through community participation (Urusetia KPN Komunikasi Koporat, Ibu Pejabat Polis Diraja Malaysia Bukit Aman, 2022). The community can assist RMP

in combating and preventing crime by participating in Community-Oriented Policing. This is where VSP mobile application eases the process just from the fingertips.

The community was previously introduced to the *Rakan Cop* community policing programme, which utilised the RMP hotline and SMS service (32728) for communicating with the RMP (Harun et al., 2018). However, it has been replaced with the VSP application since most of the community now own a mobile smartphone, helping the VSP application gain traction in the community due to the speedier dissemination of information and the ability of the RMP to act quickly. Such efforts can only be successful if the community's volunteerism is encouraging. However, as indicated in the Twelfth Malaysia Plan 2021-2025, volunteerism for safety and security is still low due to a lack of engagement and cooperation with relevant agencies (Economic Planning Unit of Malaysian Prime Minister's Department, 2021).

On the other hand, Yasah et al. (2021) argued that although reporting criminal activities via the VSP application is simple and cheap, it is discovered VSP that application membership in VSP is still insufficient and that some of its own VSP members do not utilise the VSP programme to prevent crime in their area. Regardless of dissatisfaction with this programme, the findings indicate that consumers still believe it is user-friendly and straightforward. According to the study, if the government emphasises resolving issues, it can persuade more people to become VSP users and members. As emphasised by Zhang et al. (2020), the pervasiveness of mobile devices opens up new avenues for police to interact with the community anywhere and at any time.

In the context of this study, as the engagement and interaction between citizens with RMP occurs during the process of community policing in the effort to prevent crime, the study needs to discover the factors contributing to the VSP app adoption by the citizens in community policing.

3. METHODOLOGY

This study employed a qualitative methodology incorporating the interpretative paradigm to demonstrate how people in natural settings create meaning and understand daily occurrences in their world (Wimmer & Dominick, 2014). Anuar et al. (2022) reiterate that a qualitative technique is utilised to obtain the most significant data, provide a plausible interpretation, and draw the proper conclusions from the study. It is critical for this study to interpret informants' experiences from different aspects of their personal experiences as VSP users to draw conclusions. Creswell and Porth (2016) explained that the researcher's background influences the interpretation, and it is their responsibility as an instrument to evaluate how successfully the explication based on cultural, personal, and historical experiences is carried out.

3.1 The Case Study Approach

A case study is “*an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are used*” (Yin, 1984, p.23). In layman's terms, it is an in-depth and extensive examination of the evolution of a single event, situation, or individual across time. Case studies frequently investigate and uncover complicated subjects such as societal concerns and crimes. As asserted by Hasa (2017), numerous researchers apply the case study approach to investigate socioeconomic issues such as prostitution, substance abuse, unemployment, and poverty.

In this paper, since the study aimed to elicit informants' perspectives on the factors contributing to the Volunteer Smartphone Patrol (VSP) app adoption in community policing, a case study approach was used to provide comprehensive data. According to Yin (2014), a case study research process is a "*linear but iterative process*" that includes practical and technical conversations about each of the six components of case study research: planning, designing, preparing, data gathering, analysing, and reporting. Hence, the researchers in this study adopted Yin's (2014) case study procedures and steps as follows:

- i) It begins with the identification and definition of the research problem;
- ii) The researchers then select cases;
- iii) Determines data gathering and analysis methodologies;
- iv) This is followed by field data collection;
- v) Evaluation and analysis;
- vi) The final stage in doing a case study is to write the research report.

This approach makes qualitative research extremely adaptable because the process is constantly growing and unfolding. Creswell (2013) stated that a research design is a comprehensive research process that begins with conceiving an issue and developing research questions and continues through data collecting, analysis, and interpretation. Since this study aimed to explore citizens' engagement and interaction of VSP app adoption in crime prevention through their perspectives on the VSP app, which is participant-centred and focused on their human lived experience, the Interpretative Phenomenology Analysis (IPA) was utilised. IPA's goal is to show, teach, and understand themes by firmly anchoring findings in direct excerpts from participants (Smith et al., 2009). In IPA, the researcher is the most important person in understanding what the participants are going through. It involves a two-step procedure in which the researcher seeks to interpret how the participants make sense of their experience (Pringle et al., 2011). To ensure the validity of the phenomenological data collection and analysis, the researchers employed a peer-checking approach and audit trail. As Alase (2016) emphasised, this is to aid in authenticating and validating the selected tools. To reduce participant bias, open-ended questions were phrased so that participants would not simply agree or disagree. During the interview, probing questions were also asked to obtain sincere responses. The researchers ensured that every question was answered accordingly by asking questions and probing in different ways. In addition, researchers must constantly do self-reminding to maintain neutrality to avoid influencing participants' responses. On the other hand, in addressing the researcher bias, a personal log was employed in this study to record actions or inaccessible conduct during interviews. This allows the researchers to reflect on the activity and serves as a monitoring tool to eliminate the risk of the researchers influencing the interpretation of the data.

3.1 Non-probability – Purposive Sampling

As Polit and Beck (2010) professed, the goal of most qualitative research is not to generalise but rather to provide a deep, contextualised understanding of some aspect of human experience through the in-depth study of specific examples. Thus, this study chose non-probability sampling as the sampling method. Furthermore, purposive sampling with criterion was applied to the study as it is the most appropriate sampling technique because it represents individuals

who have encountered the phenomena. As defined by Patton (2002) in Harsh (2011), criteria sampling entails revising and reading 'all examples that satisfy some predefined criterion of significance. Additionally, as Creswell (2007) explained, informants must have firsthand knowledge of the studied phenomena. Indeed, criterion sampling is the most appropriate sampling technique since it identifies individuals who have personally witnessed the phenomena. Thus, to accomplish the study's purpose, the researcher has defined the criteria below:

- i) Malaysian Citizens aged ranging from 18-60 (born between 1960 and 2002);
- ii) Residing in Klang Valley, regardless of their origin;
- iii) Must possess VSP app installed in mobile phone/gadget;
- iv) Registered and active VSP user;
- v) Regardless of marital status;
- vi) Regardless of race and gender;
- vii) Regardless of political ideology.

There are no definite numbers for the sample because it will be determined by the success of the interview process, the quality of the data obtained, the development of data analysis, and the availability of sufficient resources to support the study (Merriam & Tisdell, 2015). Creswell (2007) recommended between five and twenty-five informants, while Morse (1994) recommended at least six informants as a reference for establishing the sample size for qualitative research. Nonetheless, it is contingent upon the factors critical to the study's objectives. As Charmaz (2006) hypothesised, the smaller the study (modest claim), the sooner the data saturation occurs. Overall, nine informants' interviews were conducted among the VSP users and data were gathered for this study.

3.3 In-depth Interview and Interpretative Phenomenology Analysis

The researchers have used in-depth interviews to get information about behaviour, feelings, and how people see things. To ensure that the in-depth interview ran smoothly, the interview protocol developed from the research questions was outlined as a guide for the procedure. The researcher used six types of questions, as suggested by Patton (2002), to elicit responses from the informant: demographics questions, experience and behaviour questions, opinion and values questions feeling questions, knowledge questions, and sensory questions. The semi-structured interviews with the VSP users were conducted through one-to-one private interviews recorded using Google Meet and Zoom online to protect their identity and safety. According to Hamzah, Wan Zainodin, & Esa (2022), each interview was done in a relaxed yet systematic manner, eliciting meaningful information and experiences from each informant. All informants were asked to sign a consent form as an agreement to conduct the interview.

Meanwhile, Interpretative Phenomenology Analysis (IPA) in this study employed a modified version of the StevickColaizzi-Keen method as outlined in Creswell (2007). This method, as described by Moustakas (1994) and modified by Creswell (2007), consists of the following six steps:

- i. Researcher relates their own experiences, in this example as a mentee, with the subject under study
- ii. Researcher compiles a list of noteworthy remarks on the mentoring experiences of the participants after reading the transcripts of their interviews
- iii. Researcher organises together noteworthy remarks into broader sections or themes
- iv. Researcher produces a "what" explanation utilising direct quotes from participant interviews regarding their mentoring experiences
- v. Researcher provides a "how" explanation of the environment and situation in which the participants were mentored
- vi. Researcher develops a composite description of the participants' mentoring experiences, including textual and structural descriptions

This study employed IPA because it is participant-centred and focuses on human lived experience. The researchers only have access to the participants' experiences through their reports, which are viewed through the researchers' experiential lens.

4. DATA ANALYSIS AND FINDINGS

4.1 Theme 1: Practicality

The program's usability influences a user's propensity to try the VSP application (Yasah, 2021). The results indicated that individuals consider the VSP programme to be user-friendly and straightforward. Consequently, its practicality and user-friendliness will increase engagement and interaction between citizens and the Royal Malaysia Police (RMP) in community policing. Meanwhile, the responses of VSP users from the current study have proven how VSP app adoption helps in the engagement and interaction between them and RMP in community policing:

"The involvement that I have noticed so far is just the involvement of aa ... like RMP aa ... like the information that we channel aa ... it is directly channelled to RMP meaning the latest information. Meaning the moment we get one information, for example, aa ... there is illegal racing ... example of illegal motor racing ... meaning it will be channelled directly. Meaning there is relation that we convey directly through VSP. If we want to go through this ... If you want to make a call whatsoever ... it's a little late. By using VSP, it's just easy take a picture, send it, straightaway type it aa ... that information." (Informant 9 Line 117 – 123)

"For me, this VSP, the first reason is because it is simple because this thing is already in the apps. So, we don't need to call, don't need any cost and we can do this thing at any time and what I like the most aa ... about this VSP is that when we want to make a complaint, we can aa ... download evidence of photographs as well as videos. At the same time, we can also enter the location where em ... the crime took place. So, that's what makes me feel comfortable with these apps. Em ..." (Informant 11 Line 250 – 255)

Furthermore, the outcomes of this study revealed that the VSP app is seen as more practical and user-friendly than RMP's prior Community Policing programme, known as *Rakan Cop*. This is reinforced by the following excerpts from VSP users of this study:

"Okay. Aa ... we took the example from the previous Rakan Cop, eh. I took the example of the Rakan Cop or a hotline. Aa ... we. I have also made a complaint through Rakan Cop and hotline. Aa ... the first... the police will ask for information. Name information ... After the information, they want to know the location. And then what form of complaint? After they knew...they asked for the form of"

complaint ... When they asked for the form of complaint, they asked again. They asked again. So it took aa ... maybe aa ... five to six minutes to explain the answers to those questions. If it's VSP, we just grab our smartphone, we just key in, key in, key in and then pin the location. That's all.” (Informant 5 Line 776 – 783)

“When we had Rakan Cop before, we had a p ... aa ... flyer, right? Share share share share. Aa ... I remember aa ... their number was 699, it's their number. But with this VSP, it feels much easier. I go to the web, just signing up. Sometimes, my friends don't really know about VSP very well, even though VSP is easier than Rakan Cop. That's why... aa ... from the VSP... the important information needed are just the place, location, who, incident, what time, vehicle, Malay man or whoever ... That is important. (Informant 8 Line 350 - 353)

Based on the findings, the usefulness and simplicity of VSP, which is also deserving to be labelled as a user-friendly mobile app, demonstrate the practicality of this medium in promoting engagement and interaction between VSP users and VSP enforcers in community policing efforts. Consequently, the development and mobilisation of technology not only complement the mainstream but have also posed a challenge to the conventional method of community policing.

4.2 Theme 2: Responsiveness

Previous research has demonstrated that internet consumers desire a prompt response from the provider or server to engage and connect more effectively. In a study about User Generated Online Video (UGOV) and its virality among Generation Y political activists, Wan Zainodin (2017) found that UGOV users emphasised the importance of the government utilising social media platforms, particularly YouTube, by providing prompt responses and genuine interaction. In community policing, prompt action and response by the police are essential for fostering citizen participation and interaction, which is crucial for assisting law enforcement in combating crime. This is because each informant will have different expectations on how quickly each report or piece of information should be acted upon. In other words, whether or not law enforcement responds and takes action in response to the supplied information. This study reveals that the RMP law enforcement swiftly acted upon and responded to information VSP users transmitted via the VSP app. The expressions of VSP users are reflected in the following excerpts:

“That's right ... aa ... technology ... faster. Because previously even if we want to call, sometimes we want to call, it takes time for them to come or what, so when there is VSP, the information they received is more clear.” (Informant 10 Line 174 – 176)

“Police don't have to look around for crime anymore, okay, who's who, who's who. But it is the community that has helped to approach and find out for the police and facilitate the work of the police to come fast right away to the scene. Like that.” (Informant 13 Line 874 – 876)

“This means that the VSP function is fast and safe for me. It means when I send it; it means there is a response. If we are like aa ... we report through the phone call it's a little late for its' response but with this VSP, it is really immediate ... they take immediate action. So I am satisfied with VSP.” (Informant 9 Line 214 – 217)

As denoted by Spanoudaki et al. (2019), in a police environment, decisions may be affected by organisational, societal, or individual pressures, time-limited investigations, and demands, such as moving as quickly as possible from the investigation mode to the verification mode. With the latest technology and the growing role of community policing programmes, mobile apps like Volunteer Smartphone Patrol (VSP) can help ensure that every report and piece of information is acted on quickly, changing how citizens and RMP law enforcement engage and interact.

4.3 Theme 3: Surveillance

As cited in Walsh and O'Connor (2019), social media interactions include citizens confiscating and reporting illegal activities. Their research reflects efforts to engage individuals as additional "eyes and ears." Authorities frequently use digital platforms as extensions of Crime Stoppers and other watch programmes, issuing Amber alerts, distributing virtual wanted posters, advertising tip lines, and posting (sometimes live streaming) CCTV footage to promote public vigilance and broaden their view, reach, and knowledge. (Myers & Staples, 2017). With a new app that turns civilians into the force's eyes and ears, police are relying on the public to use smartphones to assist in curbing crime and notify them of anything requiring their attention (Zolkepli & Ahmad Tarmizi, 2017). This study demonstrates that this 'eyes and ears of the police' idea is evident in Malaysia through the mobile application of VSP, as it depicts the engagement and interaction between citizens and RMP in this medium to combat crime. Impressions such as "I think it helps VSP as the eyes and ears of the police", "We as the public become the eyes and ears of the police", and "It's like spies of police" exemplify their recognition of this condition. The excerpts from VSP users in this study validated how VSP app adoption engages and interacts with RMP in community policing:

"Okay, for sis aa ... when there is this VSP, we as the public become the eyes and ears of the police. Okay, so aa ... the engagement of this interaction is okay aa ... not necessarily over the phone, okay now this interaction is aa ... either through people say like people say ... sharing pictures, sharing texts, even videos people say interactions between the public with police." (Informant 10 Line 162 - 166)

"I think it helps VSP as the eyes and ears of the police. This VSP is very good because if ... if we look at it ... in the ASP function ... aa ... There is also a VSP... what function eh ... aa ... aa ... there is a function to upload images ... I think that's the role of society." (Informant 5 Line 1399 – 1401)

"After there is awareness, then aa ... we can get closer to aa ... what ... get closer to aa ... we are with ... I know about this VSP; I can also share it with other people ... other public people regarding the benefits of this VSP so that we can both be the eyes and ears of the police." (Informant 11 Line 102 - 105)

This study shows that the VSP application allows citizens to engage and interact with the Royal Malaysia Police (RMP) in community policing by serving as the police's eyes and ears. Altunbas (2013) explained that authorities disseminate materials containing suspect images and details about the crime to solicit tips. As a result, law enforcement agencies must maintain a strong relationship with the community, whose members serve as their eyes and ears and assist in solving crimes and directing police to the proper path. This is also supported by Yasah (2021), who stated that to combat crime and maintain public order, the RMP in Malaysia is not left behind in its use of technology and extensive improvement of information systems. Consequently, the Volunteer Smartphone Patrol (VSP) application is a new PDRM project to promote collaboration and strategic cooperation in crime prevention, with local communities acting as a surveillance system.

4.4 Theme 4: Security

In the U.S., the National Sheriffs Association, which sets up the neighbourhood watch groups, introduced the ICE BlackBox, a mobile app that lets people record video, track location, and report to the police safely (Park et al., 2017). In Malaysia, past research indicated that a comprehensive framework and sustained momentum are essential to minimise and prevent crime. RMP can utilise this strategy to educate and enlighten the community about their involvement in fighting crime, as well as preventative actions that can be implemented. The effectiveness of this crime prevention programme can satisfy the community's desire for a safe

and secure environment while reducing the community's "fear of crime" (Harun et al., 2018). According to the findings of this study, VSP users feel safe and secure when using the VSP application to transmit information to the police, which is believed to have generated engagement and interaction between residents and RMP in community policing. The following excerpts contain various responses from VSP users regarding how the VSP application engages and interacts with citizens and RMP in community policing:

"There is no fear ... because aa ... all of our information is protected. Aa ... okay so aa ... when our information is protected, we feel safe and confident aa ... so whatever information is aa ... in ... we channel it, the police will keep it secret." (Informant 10 Line 624 – 627)

"If you ask me what are the disadvantages of VSP, so far I have not seen it. Aa ... I think so far there is nothing wrong. Because we also ... aa ... their ... they asked for our details but only nickname. And I also asked my friend em ... RMP, about this VSP. I asked him is it true. Later what if I enter my phone number, he knew or scam later? Aa ... So, he also shared, he said, aa ... the phone number didn't even appear. Aa ... no ... anything ... the police don't even know our phone number. Aa ... So indeed ... actually, it is safe. No problem." (Informant 11 Line 519 – 525)

"Aa ... I uses this VSP ... it is simple. Just at your fingertips. No need to call ... no need to do anything. Open VSP type complaint, that's all. That means no one ... no one knows ... we sent information other people won't know ... It's just us with the RMP. That means people don't know who got the information. That's what's important. If we call this, it's like the office people can tell here who the informant is or informant, means other people will know. If it's VSP, people won't know. That means our information is safe. Not leak." (Informant 9 Line 199 – 204)

Prior research indicated that the function of law enforcement is to protect, inform, and prevent crime while ensuring the safety and security of our society. According to Harun et al. (2018), while using the previous Friends of Cops system, it is possible to track the registered individual's name through the phone number, even if a nickname is used, but in VSP, the user may use a nickname and is not obligated to reveal their identity to ensure the safety of the complaint. This study found that VSP users feel safe and secure when using the application to transmit information to the police. Whether they are sharing crime-related information or using the 'Balik Kampung' function to update when they leave their homes unoccupied for a trip back to their hometown or a vacation, they are sharing their data in the app. Therefore, engagement and interaction between individuals and RMP law enforcement occur here as part of community policing.

5. CONCLUSION

First, technology that can be used on the go has made it easier for citizens and RMP officers to work together and communicate. The first community policing (CP) mobile app like VSP in Malaysia has helped the effort in many ways, as it is not only useful but because it is also practical and straightforward. This study has shown that citizens and RMP law enforcement can more easily engage and interact with each other through the VSP app platform. This is made possible using technology. The usefulness and ease of use of VSP, which could also be called a "user-friendly" mobile app, show that this is a good way for VSP users and VSP enforcers to connect and work together on community policing. Moreover, VSP users in this study also professed that the VSP app is more practical if compared with the previous community policing programme called the *Rakan Cop*, which did not involve any specific development of a mobile application but rather depended on the hotline call number and SMS which can be costly over time. Hence, due to advances in technology, not only does it complement but also challenges traditional community policing methods.

Second, VSP users in this study praise the VSP app's responsiveness. They stated that their quick response and action from using this app led to their engagement and interaction with RMP law enforcement for community policing goals. This is because, in community policing, how quickly the police act and respond is a big part of getting people involved and interacting with them, which is vital for helping the police fight crime. Each person who shares information will know how long it should take to act on a report or piece of information. In other words, whether the police respond to them and act on the information they give. It was revealed from this study that the system within the app itself enables VSP enforcers to react immediately to informants after they click the "submit" button before taking further action. Depending on the case investigation, people who supplied information via VSP may have received a response in less than twenty-four hours. Thus, the fast response and action enable crimes to be solved faster.

Third, the findings of this study also indicate that when the citizen is engaged and interacts with the Royal Malaysia Police (RMP) law enforcement through the VSP application as the police's eyes and ears, the application becomes a direct information channel for surveillance activities between the public and the police. Police forces all over the world before this have been practising the same method of putting up information out there with photographs of suspects, and information about the crime that happened, to get tips from the community. But with the existence of mobile applications for community policing like the VSP app in Malaysia, it was revealed that RMP could receive vast information from the VSP users directly. Thus, law enforcement agencies must establish strong relationships with the community since they are their eyes and ears, assisting police in solving crimes and directing them in the proper direction. To put it another way, this study exposed that the VSP application is helping to engage and interact with citizens with the RMP by acting as the police's eyes and ears when citizens voluntarily communicate and upload information concerning crime to the RMP, which is an act of surveillance.

Lastly, the efficiency of this programme for preventing crime can make it possible for the community to meet its requirements for living in a safe and secure environment while also reducing the amount of 'fear of crime among the community members. It is evident from the findings of this study that VSP users experience a sense of safety and security when using the VSP application to channel information to the police. This is seen as the driving force behind the engagement and interaction between citizens and RMP in the context of community policing. This is because the platform offers a protected method to conceal the identities of VSP informants through the utilisation of nicknames and a protected registration through the utilisation of the Transaction Authorisation Code (TAC) number. Additionally, when citizens feel safe communicating with RMP law enforcement via the VSP app, more crime-related information can be securely channelled, more crimes can be averted and subsequently solved, and the environment is protected, as well as community safety. This is critical in creating a peaceful area with fewer crimes. VSP users in this study professed that they feel safer leaving the house because of the '*Balik Kampung*' option in VSP, which acts as a safe house campaign and allows users to notify the police anytime they leave the house, for example, to return to their hometown.

The study's results have contributed significant insights to reflect on the factors contributing to the VSP app adoption in community policing. Above all, research revealed that the VSP app must be considered essential by the government and Royal Malaysia Police in Malaysia. The shifting from conventional policing to community policing via mobile application has sent a strong message to the citizens to change how crime issues are reported to the police.

Nevertheless, this case study also comes with certain limitations. First, in terms of research methodology, this study utilised a purely qualitative method instead of integrating quantitative and qualitative data in a mixed method. The researcher could have chosen a hybrid method to understand the issue better. As denoted by Creswell (2013), comparing distinct viewpoints derived from quantitative and qualitative data is an effective method for gaining a more comprehensive knowledge of research challenges and concerns. Second, from the research design aspect, the present study has chosen in-depth interviews over other data collection approaches, such as audience observation and focus groups. The researcher could have broadened the findings by using different approaches to explain the situation thoroughly. Given that qualitative research is conducted in natural settings, it would be ideal if communication could be enhanced by removing errors from the commencement of fieldwork.

To conclude, this may be addressed in future research by employing a quantitative or mixed-method approach to acquire a wider variety of results. This might contribute to the growth of this field of study and have far-reaching implications for law enforcement agencies, educational institutions, and mobile app developers. Moreover, future researchers can also conduct their studies based on the same VSP app or other mobile apps, such as the My Sejahtera mobile app by the Malaysian Ministry of Health, which involves different demography samples to compare the findings for further discussion on factors contributing to the mobile app adoption by users.

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AUTHORS CONTRIBUTION STATEMENT

GG contributed to the introduction, literature review, methodology, data analysis, findings, and conclusion sections. WHWZ refined the data analysis, findings, and implication sections. AHY contributed to the interpretation of the findings and conclusion. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING OF INTERESTS

The authors declare that they have no conflict of interest.

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Spending Patterns of Malaysian Youth during the COVID-19 Pandemic

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ABSTRACT

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Paying attention to spending patterns is essential, especially for the younger generation during the COVID-19 pandemic. Previously, young people spent more money on entertainment activities to fulfil their life satisfaction than life survival. Young people also contributed to the highest number of bankruptcy as they borrowed money to buy non-essential products. The main objective of this study is to determine the significant relationship between the factors that influence spending patterns among the young generation during the COVID-19 pandemic in Malaysia. The research considered testing the factors of expenditures on food, transportation, and entertainment activities. The data were gathered from the distribution of a questionnaire to the respondents. SPSS version 23.0 was used to analyse the data. The results found that food and transportation expenditures significantly influenced the spending pattern during COVID-19, while entertainment expenditures had no significant relationship with the spending pattern. Results also highlighted that food expenditure was the highest influencing factor in spending patterns. This study will help policymakers outline the importance of financial assistance based on the priority needed by society, especially in an unexpected crisis. Further research on factors such as personality, behaviour, and financial knowledge can be explored. Besides, future research can also analyse the data using Partial Least Square-Structural Equation Model (PLS-SEM) to produce a variety of results.

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1. INTRODUCTION

In 2020, a new coronavirus outbreak (COVID-19) emerged in Wuhan, China which brought unprecedented events worldwide (Chakraborty & Maity, 2020). According to Roll et al. (2021), the COVID-19 pandemic has led to a huge shift in consumer behaviour, mainly declining expenditures. It forced many families to forgo basic needs like food or housing payments. These happened due to widespread and sudden income decline due to job loss. Government restriction activities have influenced consumer spending patterns and led to greater control of viral spread. The restrictions such as mandate business closure, hour restrictions, or occupancy have changed how consumers shop and spend. The pandemic also impacts the younger generations by changing their spending patterns. The United Nations defined youth as a transition from childhood dependence to adult independence between 15 and 24 years (Lenz, 2001). However, in Malaysia, the Youth Societies and Youth Development Act 2007 (YSYDA 2007) defined youth as a person not less than 15 years and not more than 40 years old (Yeon et al., 2016). The spending pattern shows what the young generations are purchasing and how they are likely to spend. As Ochei (2012) mentioned, young people need monitoring and control over their spending decisions. Based on statistics released by the Malaysian Insolvency Department (MDI) in February 2022, 26,477 individuals aged between 25-44 years have been reported to have gone bankrupt from 2018 until February 2022. Among the leading causes that push these young people towards bankruptcy are personal loans (41.70%), hire purchases (15.11%), business loans (13.31%), housing loans (9.62%), and credit cards (8.46%). Since personal loans showed a high percentage of bankruptcy, the spending pattern among the young generation must be given more attention. It is sometimes shown that the younger generation does not plan their finances well, especially in spending, which leads them to borrow money to buy unnecessary goods (Fischer et al., 2017).

During the COVID-19 pandemic, the spending pattern among young people might be different as they are more concerned about purchasing essential products (such as food and medicine) rather than non-essential products (such as gadgets, entertainment, etc.) (Kumar et al., 2020). The spending pattern of the younger generation in Malaysia is becoming more reckless than the older generation (Esmail Alekam, 2018). As the standard of living in Malaysia has increased rapidly, the younger generation has a higher degree of freedom to spend and make their own consumption choices because Malaysia faces lifestyle changes and spending decision difficulties (Alekam, Salleh & Mokhtar, 2018). According to Idris et al. (2013), most of today's younger generation has an immediate orientation and, in many ways, is protected from the reality of the real challenges happening in the world. They further explained that this tendency leads to a lack of financial security and deterioration in the quality of life and creates social problems in the future that can hinder the process of development and progress of the country. In addition, with the introduction of fintech, digital payment can simplify the transactions between sellers and buyers, which may revolutionise buyers' consumption of products or services (Setiawan et al., 2020). Digital payment can affect buyers' spending decisions (Cobla & Osei-Assibey, 2018) and cause overspending (Agarwal et al., 2019). Thus, even though young people are well-planned in their finances, they may spend on unnecessary goods with wisely used digital payment during the COVID-19 pandemic (Kee et al., 2021).

To ensure that spending patterns improve, young people in Malaysia must have sufficient financial knowledge. Insufficient knowledge of prudent money management will cause poor financial management, affecting youth's academic performance, mental health conditions, and physical well-being (Shim et al., 2009). In addition, most young women make spending

decisions on the survival of life (Wamoyi et al., 2020). They spend some money on food and transportation rather than entertainment activities. Thus, this research is aimed to determine the relationship between the expenditure of food, transportation, entertainment, and spending patterns. Furthermore, it also determines the most vital factor that influences spending patterns.

2. LITERATURE REVIEW

Mitchell (1937) defined spending as an activity of spending or spending money. From that definition, Malelak and Halim (2021) stated that spending behaviour is someone's behaviour in spending or spending money. Each individual has different needs and desires, resulting in different daily spending activities (Tripambudi & Indrawati, 2018). This led to different spending patterns. For example, married young people have different expenses from unmarried young people. The expenditure of married couples is more focused on meeting the needs of their family. Unmarried young people are usually new to doing things for the first time, such as owning a car, credit cards, etc. The spending pattern is the behaviour of a person issuing their income budget to understand the needs and choices for a product or service (Subhani et al., 2012). The intention of an individual to change his spending pattern if he has more money or more opportunities to decide on his decisions does not depend on how much money they or their parents have (Subandi & Basana, 2021). People also spend most of their disposable income on entertainment, food and beverages, education, and leisure activities, according to a study conducted by Potluri et al. (2009).

Birari and Patil (2014) stated that the current spending pattern of youth has changed drastically because of westernisation and high productivity. Moreover, they also said that students belonging to different levels of education differ in expenditure in many categories. They further reported that young men and women have different spending decisions with little in common. Youth spend a large sum of money on shopping, fast food, communications, and transportation. They suggested that youth should cultivate rational spending and save for the future. It is similar to the study by Adamu et al. (2021) that concluded the youth spend most of their income on fast food, shopping, movies, and transportation in Nigeria. Wamoyi et al. (2019) found most young women spend some of their money on basic survival items, such as food, for themselves and their families. Other survival expenses for self and family included medical expenses and, on rare occasions, rent. Furthermore, they are also spending a portion of their money on self-care, such as soaps, lotions, body oils, and sanitary pads, and some buy shoes or clothing for themselves or their child. A study by Kee et al. (2021) found that respondents spent more on groceries than others during the COVID-19 pandemic. They discovered that the overall sale of e-commerce increases because people avoid going out, keep social distance, buy from home, and work from home. Bhati et al. (2020) mentioned that 27.2% of respondents stated that shopping online is their main spending when using cashless payments.

In the Malaysian context, a survey in 2015 by the Asian Institute of Finance found that youth has relatively large spending, especially those involving living expenses. It is then followed by loan repayments and their expenditures for lifestyle items. Other research studies showed that age and compulsive purchasing correlate with young consumers. It is also seen that when there are impulse and compulsive buying conditions, the younger consumer is the answer (Subhani et al., 2011). The National Youth Development Policy of Malaysia defines youth as people aged between 15 and 40 (Yeon et al., 2016). Data obtained from the Department of Statistics Malaysia (2020) stated that the total population of Malaysia was estimated at 32.7 million in 2020. About 11 million, or 35% of the total population in Malaysia, are youth

aged between 20 to 39 years. In a study conducted by Bedgood (2019), it was found that the largest production would be done by young people when they want to set up a household, and this is an opportunity for marketers to improve their marketing strategy. For some time, marketers have adapted their marketing tactics to appeal to this age group, namely consumers aged between 23 and 39. Costin (2019) in his study revealed that most youth would consider social responsibility and environmental friendliness when deciding to spend. Hence, brands face high expectations from youths regarding spending and investment dollars. In the reporting year, 2015, Inland Institutional Capital Partners Corporation stated that youth only tend to lean towards what is considered unique such as delicacies, electronics, or even sports events, before spending.

2.1 Food Expenditure

In 2018, Knoema.com showed that Malaysians recorded \$1,410 (RM5,640) in food spending per capita. As shown in Figure 1, expenditure on food increased from 2009 to 2018. From \$771 (RM3,084) per year in 2009, it became \$1,410 (RM5,640) in 2018 with an annual rate of 7.25%.

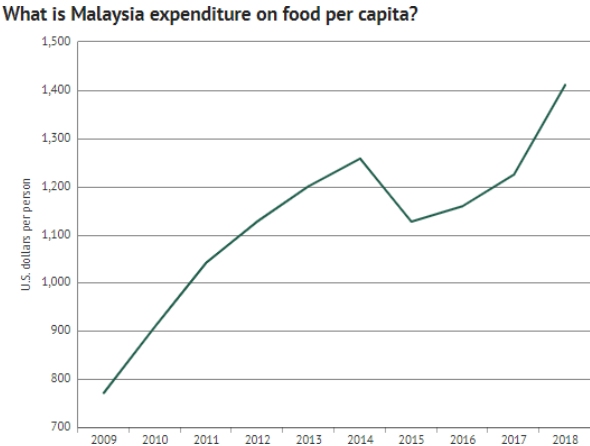


Figure 1 Malaysia’s Expenditure on Food Per Capita

Goyal and Singh (2007) analysed various factors influencing the behaviour of youth spending. They stated that visiting cinemas to watch movies, going sightseeing, having fun and playing with friends are the main factors influencing their visit to the fast-food store. Moreover, Wamoyi et al. (2020) found that most young women spend some of their money on food as basic survival items for themselves and their families.

2.2 Transportation Expenditure

In 2018, Marketingcharts.com released information that youths spent 16.8% of their spending in the year 2017 on transportation, followed by Gen Xers (16.1%) and Baby Boomers (15.9%). The data obtained was a bit surprising because the pattern does not always occur when sorted according to the type of transport. Youth, Gen Xers and Baby Boomers each allocated the same share (1.2%) of their expenses for public transportation and transportation other than vehicle purchases. While there have been a lot of discussions about youth and their impact on the automotive industry since the younger generation spent a larger share of their total annual spending on vehicle purchases (7.5%) than other generations. This is due to the smaller income and expenses, as Gen Xers spend more on average vehicle

purchases (\$ 5,165) than the youth (\$3,825). In the case of Nigeria, youth spend most of their income on transportation, fast food, shopping, and movies (Adamu et al., 2020). In addition, Malaysian youth also spend some of their income on food and transportation compared to other expenditures such as electronics, gadgets, entertainment, and sports activities (Kamardin & Sarif, 2021).

2.3 Entertainment Activities Expenditure

The Youth of the Nations: Global Trends among the Young Generation (Jun 2019) examined the younger generation's digital lifestyle, attitudes, and behaviour. They have found that smartphones are central to the lives of today's younger generation. By the end of 2018, youth, in general, had spent an average of 4 hours and 15 minutes daily on their mobile phones, which is a more extended period than the previous generation. According to Gómez-Gonzalvo et al. (2020), Spanish youth spent an average of €73.42 per year purchasing video games with which 38.6% of them played using a PC, 28.2% used a tablet, 54.5% used a game console and 60.2% used a mobile phone. Furthermore, most of them played sports video games (80.8%), action video games (76.8%), and adventure games (74.9%).

In Malaysia, active social media users increased from 2016 to 2020 (Statcounter, 2020). In March 2020, the social media statistics showed the users of Facebook (77.51%), Twitter (10.65%), Instagram (4.82%), Pinterest (3.63%), YouTube (3.01%), and Tumblr (0.2%). It means the daily life of people change when they feel that social media is essential in their life. Thus, social media affects people's purchase intention, especially among youth (Shi & Ismail, 2021) since information and advertisement have led to youth's decisions on spending when they regularly access various social media platforms. Furthermore, before the COVID-19 pandemic, Lee et al. (2017) mentioned that teenagers in Malaysia are exposed to Korean Pop (KPOP) culture, and they sacrificed their money to buy tickets priced between RM75 to RM200 to attend the big concert at Stadium Melawati, Kuala Lumpur.

2.4 Research Framework

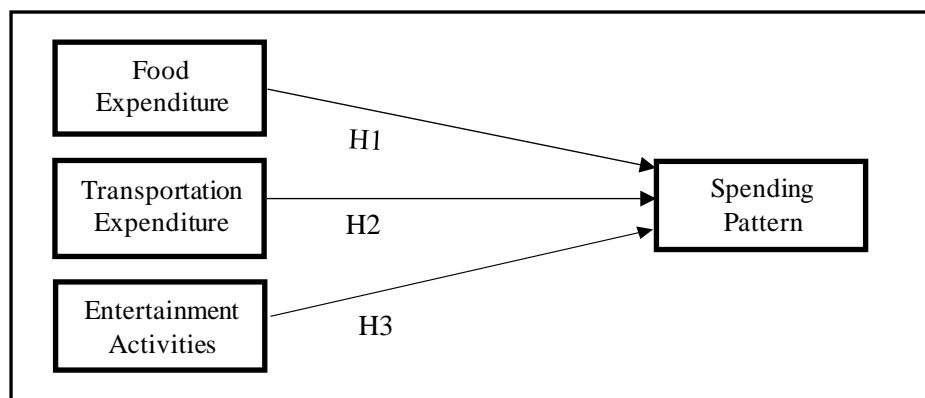


Figure 2 Research Framework

Figure 2 shows a dependent variable, the spending pattern adapted from Adamu et al. (2020). Meanwhile, the independent variables of food, transportation, and entertainment activities are adopted from Razak et al. (2014) with some modifications done by Abawag et al. (2019), Chhabra (2016) and Folorunsho (2015). From the research framework, three hypotheses have been developed which are:

H1: There is a significant relationship between food expenditure and spending patterns.

H2: There is a significant relationship between transportation expenditure and spending patterns.

H3: There is a significant relationship between entertainment activities' expenditure and spending patterns.

3. RESEARCH METHODOLOGY

Descriptive research describes the variables from the previous study on spending patterns. In this study, the researchers collected data through primary data. Primary data was collected through questionnaires. The questionnaire was adapted from a previous study to measure the variables in the study. A total of 22 questions in bilingual (English and Malay) using the Five-Point Likert scale have been used in the questionnaire. The dependent variable of this study is spending pattern, while the independent variables are food, transportation, and entertainment activities. The questionnaire consisted of five sections. In Section A, the questions asked about the demographic profile, and section B was about the spending pattern (adapted from Adamu et al., 2020). Questions about food expenditure (adapted from Razak et al., 2014 and Folorunsho, 2015) were covered in section C, while section D listed the questions on transportation expenditure (adapted from Razak et al., 2014 and Chhabra, 2016). Section E adapted the expenditure of entertainment activities questions from Razak et al. (2014) and Abawag et al. (2019). Since this research was done during the COVID-19 pandemic for four months, the data were collected by distributing the online questionnaire to Malaysian youths aged between 15-40 using social media, which are WhatsApp applications and Facebook platforms for the entire Malaysian population.

Convenient sampling was used in this study. About 76 feedback questionnaires were received from the WhatsApp application, and 47 feedback questionnaires were obtained from the Facebook platform. However, only 107 questionnaires were used to validate the study. Sekaran and Bougie (2016) stated that if the sample is 100, it can be used to generalise the research findings. The data were analysed using Statistical Package of Social Science (SPSS) software (Version 23.0) to obtain the results. Among the analysis used were frequency distribution, reliability analysis, descriptive analysis, correlation analysis, and multiple regression analysis. Those analyses were used to ensure the research objectives could be achieved.

4. DATA ANALYSIS AND RESULT

4.1 Frequency Distribution Results

A total of 107 questionnaires out of 113 were received (94.7%) through an online survey from respondents in Malaysia through the WhatsApp application and Facebook. The table showed that 70.1% were female and 29.9% were male. On the marital status of the respondents, 39.3% were single. Most of the respondents, 57.9%, were married. Table 1 also illustrates the age range of the respondents, of whom 2.8% were aged 15-20 years old while 49.5% were aged 21-30 years old, and 47.7% were aged 31-40 years old. In addition, the finding on employment showed that 27.1% worked in the government sector, 30.8% worked in the private sector, 26.2% were self-employed, and 15.9% were students. The analysis of education level results showed that most respondents had a bachelor's degree, 43%, 34.6% with diplomas, 12.1% had a Master's or PhD qualification, and the least level

of education was secondary level with 10.3%.
The results from the frequency distribution analysis are shown in Table 1.

Table 1 Frequency Distribution Result

Socio-Demography	Variable	N = 107	%
Gender	Male	32	29.9
	Female	75	70.1
Age	15-20	3	2.8
	21-30	53	49.5
	31-40	51	47.7
Marital Status	Single	42	39.3
	Married	62	57.9
	Divorced	3	2.8
Employment	Government	33	30.8
	Private	28	26.2
	Self- Employed	28	26.2
	Students	18	16.8
Education Level	Secondary Level	11	10.3
	Diploma	37	34.6
	Bachelor's Degree	46	43.0
	Master's/ Ph.D.	13	12.1

4.2 Reliability Results

Sekaran and Bougie (2013) stated that a reliability test is used to measure the consistency of the items. In Table 2, all variables are reliable given the range of Cronbach Alpha value being close to 1. Since all values are larger than 0.7, all variables are considered reliable (Sekaran & Bougie, 2016). The reliability results are shown in Table 2.

Table 2 Reliability Results

Variables	Cronbach Alpha	No. of Items	Reliable
Spending Pattern	0.982	6	✓
Food	0.969	6	✓
Transportation	0.977	5	✓
Entertainment Activities	0.978	5	✓

4.3 Descriptive Statistics Results

The mean and standard deviation results were analysed using descriptive analysis. Table 3 shows that food expenditure had the highest mean with a value of 3.0935 and a standard deviation of 0.91522. It was followed by transportation expenses (mean = 2.9196; SD =

1.07663). The lowest mean was entertainment activities expenses, with a mean value of 2.4355 and a standard deviation of 0.98625.

Table 3 Descriptive Statistics Result

Variable	Mean	Std. Deviation
Spending Pattern	2.8832	1.10346
Food	3.0935	0.91522
Transportation	2.9196	1.07663
Entertainment Activities	2.4355	0.98625

Table 4 Results of Descriptive Statistics for Spending Patterns

Items	Mean	Std. Deviation
My income is enough to fulfil my monthly spending.	3.3551	1.06623
I spent more on food and beverages.	2.7850	1.15765
I spend more on transport.	2.7358	1.24640
I participate, and I am a member of high-class entertainment events.	2.0654	1.04855
I spent more than saved every month.	3.1028	1.02731
I do a part-time job to cover my spending.	3.2523	1.33242

Table 4 shows six questions representing the spending patterns of youth. From the table, the highest mean is “*My income is enough to fulfil my monthly spending*”, which was 3.3551. This means that most of the respondents agreed that their monthly spending did not affect their income. The lowest mean score was “*I participate in high-class entertainment events*”, which was 2.0654. Most of the respondents disagreed with the statement because sometimes, to participate in entertainment activities, they do not need to spend more money and rarely choose high-class entertainment.

In Table 5, there are six items of spending patterns on food expenditure. From the table, the highest mean was “*I prefer eating meals at home*”, which was 4.4299. It means most respondents agreed that they spend money on food based on necessity and affordability. Then, the lowest mean was “*I usually eat at restaurants or fast-food chain for dinner*”, which was 2.2150. Most respondents disagreed that they always have dinner at a restaurant or fast-food chain.

Table 5 Results of Descriptive Statistics for Food Expenditures

Items	Mean	Std. Deviation
I compare prices when I spend money for food.	3.8692	1.03781
I don't hesitate to spend my money on food.	3.5607	1.07438
I usually eat at restaurants or fast-food chains for breakfast.	2.2523	0.98185
I usually eat at restaurants or fast-food chains for lunch.	2.2336	1.03322
I usually eat at restaurants or fast-food chains for dinner.	2.2150	0.9979
I prefer eating meals at home.	4.4299	0.74114

Table 6 Results of Descriptive Statistics for Transportation Expenditures

Items	Mean	Std. Deviation
I spend a portion of my money on fuel consumption for my own vehicle.	3.1121	1.10169
I prefer walking rather than using a vehicle when I go to a nearby place.	2.9252	1.17923
I prefer taking public transport to go to campus or the workplace.	2.5981	1.21204
I usually pay the exclusive fare when using public transport.	2.2523	0.99141
I rarely spend a portion of my money on transportation fares as I have my own vehicle.	3.7103	1.12442

In Table 6, five items represented the spending patterns in transportation expenditure. The highest mean score of 3.7103 was for “*I rarely spend a portion of my money on transportation fares as I have my own vehicle*”. It means most respondents agreed that they spend money on their own vehicles rather than public transportation. This correlates with the second-highest mean score for “*I spend a portion of my money on fuel consumption for my own vehicle*”. The lowest mean score was for the statement, “*I usually pay the exclusive fare when using transportation*”, with 2.2523. Most respondents disagreed that they spend their money on exclusive fares for public transport.

Table 7 shows five mean scores representing the spending patterns on entertainment activities. The highest mean score was for “*Entertainment, and Sports activities are very important to me*”, with 3.3364. It means most of the respondents agreed that spending on entertainment activities would make them enjoy their life and manage stress. The lowest mean score was 1.9813, for “*I don't hesitate to pay for expensive tickets to watch the latest entertainment shows*”. Most of the respondents did not agree that they spend more of their money on paying expensive tickets to watch entertainment shows.

Table 7 Results of Descriptive Statistics for Entertainment Activities

Items	Mean	Std. Deviation
Entertainment activities are very important to me.	3.3364	0.94113
I don't hesitate to spend my money when it comes to entertainment events.	2.5234	1.02189
I spend a portion of my money in high prestige entertainment activities.	2.2056	1.05274
I subscribe and pay for entertainment channel every month.	2.1308	1.07356
I don't hesitate to pay for expensive tickets to watch the latest entertainment shows.	1.9813	1.04594

4.4 Multiple Linear Regression Results

The multiple linear regression analysis was conducted to analyse the correlation of determination (R^2) and analysis of variance (ANOVA). Table 8 shows the result of R^2 .

Table 8 Correlation Determination (R^2)

R	R Square	Adjusted R Square	Std. Error
0.994 ^a	0.989	0.988	0.11898

The value of R^2 was 0.989, which concluded that it had a fit linear model to the set of observations and highly resulted in the power of the entire regression equation. As shown in Table 8, the result of the R^2 value was close to the fitted regression model. The value of 0.989 represented that 98.9% of spending patterns among youths in Malaysia are explained by food expenditure, transport expenditure, and entertainment activities expenditure and only 1.1% are explained by other variables. Thus, it significantly resulted in changes in the expenditure on food, transportation, and entertainment activities, which are highly influenced by the changes in spending patterns among youth in Malaysia during the COVID-19 pandemic.

Table 9 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	127.624	4	31.906	2253.893	0.000 ^b
Residual	1.444	102	0.014		
Total	129.067	106			

Table 9 shows the result of ANOVA. It indicates that F-test was 2253.893, and the significant value (p -value) was 0.000. The result shows that the model was fit due to the p -value being less than the alpha value of 0.05. It indicated that the model exists.

Table 10 Coefficients

Model	Unstandardised Coefficients			Sig.
	B	Std. Error	t	
(Constant)	-0.346	0.064	-5.453	0.000
Food	0.458	0.079	5.792	0.000
Transport	0.297	0.077	3.880	0.000
EntertainmentActivities	0.103	0.059	1.735	0.086

Table 10 shows the results of coefficients for all independent variables. From the result of unstandardised coefficients, the multiple regression model is presented as an equation below:

$$Y = -0.346 + 0.458 (\text{food}) + 0.297 (\text{transportation}) + 0.103 (\text{entertainment activities})$$

It means that every 1 unit increase in spending pattern will increase 0.458 food expenditure, 0.297 transport expenditure and 0.103 entertainment expenditure.

Table 10 also shows the hypothesis testing results by looking at the variables' *t*-value and significant value (*p*-value). From Table 6, the *t*-value of food was 5.792, and the *p*-value was 0.000. This shows that food expenditure significantly influences the spending pattern during the COVID-19 pandemic because the *p*-value is less than 0.05. Thus, hypothesis H1 is supported. Meanwhile, the *t*-value of transportation expenditure was 3.880, and the *p*-value was 0.000, less than 0.05. It indicates that during the COVID-19 pandemic, transportation expenditure significantly influences the spending pattern among youths. Therefore, hypothesis H2 is supported. Lastly, the *t*-value for entertainment activities expenditure was 1.735, and the *p*-value was 0.086. It indicates that entertainment activities expenditure during the COVID-19 pandemic does not significantly influence the spending pattern among youths in Malaysia as the *p*-value is more than 0.05. Thus, hypothesis H3 is not supported.

Based on the beta value, it shows that the highest beta was for food expenditure ($\beta=0.458$), followed by transportation expenditure ($\beta=.297$) and entertainment activities expenditure ($\beta=.103$). It clearly showed that food expenditure was the most influential factor in spending patterns among youths in Malaysia during the COVID-19 pandemic. Meanwhile, expenditure on entertainment activities was a minor factor influencing the spending patterns among youths in Malaysia during the pandemic. In summary, the statistical results concluded that hypotheses H1 and H2 are supported, and H3 is not supported.

5. DISCUSSIONS

From the results, the research objective has been met when it shows the positive relationship between expenditure on food, transportation, and entertainment activities and spending patterns. However, the entertainment activities expenditure has no significant relationship with spending patterns during the COVID-19 pandemic. It shows that food expenditure significantly influences spending patterns during the COVID-19 pandemic and is also the most influential factor in spending patterns. It means that the younger generation prioritises life's survival when making spending decisions during COVID-19 (Kee et al., 2021). This result is consistent with Knoema.com (2018) finding that the trend of per capita food expenses increased by 7.25% annually from the year 2009 to the year 2018. Wamoyi et al. (2020) found that most young women spent money on food as an essential survival item for themselves and their families. The same goes for the findings of this study, whereby the respondents are predominantly female. The results also align with Adamu et al. (2021) that young people spend their money more on fast food, and during COVID-19, people spend more buying groceries than on unnecessary goods (Kee et al., 2021).

The result also shows that transportation expenditure significantly correlates with spending patterns. It is the second important factor as the government restrictions mandate business closure and change in the working environment from working from the office to working from home (Roll et al., 2021). It means that the money spent on transportation is reduced. The transitions happened drastically when they spent both their work and leisure hours at home. In this situation, the younger generation spent a portion of their money on delivery and e-hailing services. The result is also in line with the information presented by Marketingcharts.com (2018) that youth spent 16.8% of their spending in the year 2017 on transportation as compared to Gen Xers (16.1%) and Baby Boomers (15.9%). Kamardin and Sarif (2021) also highlighted that Malaysian youth allocate their income to buying food and spending on transportation compared to entertainment activities. This finding does not support the relationship between entertainment activities expenditure and spending patterns among the younger generation in Malaysia. Youth feel that entertainment activities are the least priority, after food and transportation.

6. CONCLUSION

In conclusion, the spending pattern among the younger generation in Malaysia during the COVID-19 pandemic has drastically changed. They are spending more on food and transport expenditures than entertainment. During the pandemic, the younger generation was more concerned about spending their money on essential goods for the survival of their lives and families. Before the COVID-19 pandemic in Malaysia, they sacrificed spending their money on entertainment activities to fulfil their life satisfaction. The implication of this research is to give additional knowledge and literature to future researchers. This research also offers implications for society as they must plan their finances well for unexpected situations like the COVID-19 pandemic. They must spend their money on buying food and paying for transport. Other than that, it will help the policymakers to outline the importance of financial assistance based on the priority needed by society, especially during the COVID-19 pandemic. This research can be explored for future research by considering other factors such as personality, behaviour, and financial knowledge. Those factors will affect spending patterns differently as individuals have different personalities, behaviour, and levels of financial expertise. The other method of analysis can also be considered, like Partial Least Square-Structural Equation Model (PLS-SEM), which can enhance the results with further analysis.

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AUTHOR CONTRIBUTION STATEMENT

NI and WYR carried out the introduction and literature review sections. NI collected and refined the data and performed the data analysis using Statistical Package of Social Science (SPSS) software (Version 23.0). AA wrote the data methodology section. NI and AA wrote the discussion and implication sections. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that they have no conflict of interest.

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Assessing Socio-Demographic Factors Affecting Fatigue Level among Community-Dwelling Older People

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ABSTRACT

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This study examines the link between fatigue level and socio-demographic profiles of community-dwelling older people attending the Elderly Activity Center. The influence of medical conditions (Type-2 diabetes, hypertension, heart disease, hyperlipidemia, and asthma) on fatigue levels were also explored. A cross-sectional study with purposive sampling was conducted on 180 community-dwelling older people aged 65 years and above in Selangor. Based on statistical analyses, it was found that Physical Fatigue has the highest fatigue level among community-dwelling older people. There was a significant difference between age and Reduced Motivation, education level and Reduced Activity, and the number of illnesses and General Fatigue. Type 2 diabetes mellitus added significantly with Mental Fatigue, and asthma was significant with all fatigue scales except Mental Fatigue. The study suggested that physical fatigue is the most prominent among older people compared to other fatigue dimensions and has some association with socio-demographic factors. Therefore, effective fatigue management considering all cohabiting factors should be encouraged in treating fatigue among community-dwelling older people.

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1. INTRODUCTION

Fatigue is a common complaint among older people and can be defined as exhaustion or a sense of weariness from physical work or mental stress (Yu et al., 2020). It refers to the symptoms of subjective discomfort and disruption of activity or performance characterised by lack of energy, muscle weakness, and slow movement. Fatigue is a pathological feature of many medical conditions, including heart disease, cancer, and depression, and it can also be a side effect of any treatment (Watt et al., 2000). As we grow older, the level of fatigue increases (Yu et al., 2020). Several studies have documented fatigue among older people (Yu et al., 2020; Barak et al., 2020). Soyuer and Senol (2011) opined that fatigue is a significant geriatric syndrome affecting family life, work performance, and social life. The perspective of fatigue could be different from one person to another. Fatigue could be due to physical, mental, emotional, or any combination of these. Older people may often have difficulty engaging in regular daily activities such as eating, bathing, dressing, serving, ambulating, continuing, or merely doing so to a lower level which depends on the level of fatigue (Bahgat et al., 2016; McPhee et al., 2016).

However, studies on fatigue among older people in the Malaysian population are still limited. Previous studies reported assessing fatigue levels among older people from Western countries (Yu et al., 2020; Watt et al., 2000). To add to this pool of knowledge, this study will report the findings on multiple dimensions of fatigue levels among older Malaysians. A previous study has found that fatigue has been proven to interfere with the functional status of older people (Jing et al., 2015) and its association with socio-demographic factors (Fritschi & Quinn, 2010; Mohamed Abd-Rabouh et al., 2017; Seo et al., 2015). Impairment of the functional status includes the dependency level in tasks related to activities of daily living (ADL) and instrumental activities of daily living (IADL).

As people get older, many diseases, such as diabetes mellitus, high blood pressure, cancers, and joint and back pains, may often lead to impairment in the human body's musculoskeletal system, which may interfere with older people's human system (Mugo, 2019). Torossian and Jacelon (2021) mentioned that a frequent situation among older people was fatigue becoming more severe and restricting when there is a gap between medical conditions. Thus, knowing how medical conditions have influenced fatigue levels may improve fatigue management in community-dwelling older people. Thus, this study analysed fatigue levels and associated demographic factors among community-dwelling older people. The influence of medical conditions (Type-2 diabetes, hypertension, heart disease, hyperlipidemia, and asthma) on fatigue levels were also explored.

2. LITERATURE REVIEW

The number of people over the age of 60 is expected to rise from 841 million in 2013 to over 2 billion in 2050 (Rashid et al., 2016). Malaysia's aging population is also growing at a comparable rate. In 1995, the senior population in Malaysia was only 5.8%, but by 2005, it had climbed to 7.0 %. Malaysia's older people population recently increased to 9.2 % in 2015, with a projected growth to 14.4 % by 2030 (Foong et al., 2016). The term "elderly" has traditionally been defined as someone who is 65 years old or older, with those 65 to 74 years old being referred to as "early elderly" and those above 75 years old being referred to as "late elderly" (Orimo et al., 2006).

Feeling fatigued may be the first sign that something is wrong with the human body. Fatigue is a commonly experienced situation by older people related to age factors, and often, the definition is misinterpreted (Sullivan, 2015). Many studies showed that fatigue increases with

age, although not all report this relationship (Murphy & Niemiec, 2014). According to Soyuer and Şenol (2011), fatigue is a significant geriatric syndrome that is recently defined for the older population and can negatively affect their family life, work performance, and social life.

Findings from previous studies reported that fatigued older people might present with a lower physical capacity (Trendall, 2001; Egerton et al., 2016), cognitive impairment (Li et al., 2020) and diminished social functioning (Egerton et al., 2016). Fatigue also leads to a lack of participation in daily occupation, which causes interference in performing daily tasks (Shorts et al., 2015). Older people with diabetes are reported to have fatigue and distressing complaints (Fritschi & Quinn, 2010). However, with a wide variety of conceptual understandings of fatigue definition and how it affects general wellness, there was little attention paid to fatigue management (Yu et al., 2020). Most studies described fatigue as multidimensional symptoms, lack of energy, simply tired (Lin et al., 2013; Romine et al., 2017), and persistently tired (Moreh et al., 2010). Therefore, in this study, the Multidimensional Fatigue Inventory (MFI-20) is used to measure fatigue following general fatigue, physical fatigue, reduced activity, mental fatigue, and reduced motivation.

General fatigue includes general statements about fatigue and decreased functioning and was designed to encompass physical and psychological aspects of fatigue. Physical fatigue concerns physical sensations related to fatigue. Mental fatigue pertains to cognitive functioning, including difficulty concentrating. Reduced activity is not doing useful activities that influence physical and psychological factors. Finally, reduced motivation relates to a lack of motivation to start any activity. All of these dimensions were identified from the interview with the respondents. Numerous research has revealed that woman experiences higher fatigue than males, but the fundamental causes of these discrepancies between gender are still unknown (Jing et al., 2015). Women may experience more stress than men because of their unique physiological nature and societal roles (Herrero et al., 2012), making them more prone to fatigue. Moreover, an association was found between higher education and physical activities (Romine et al., 2017). More information is needed on the association between fatigue with age, sex, and the use of common compensatory interventions for older people (Norberg et al., 2010).

The causes of fatigue are often observed in specific medical diseases (e.g., cancer, neurodegenerative disorders, rheumatologic disease, heart failure, stroke, and hormonal disorders) (Zengarini et al., 2015). The development of fatigue management interventions applicable to more than one chronic disease may result from understanding risk factors for fatigue that are common across multiple chronic diseases (Torossian & Jacelon, 2021). This will benefit a broader range of older people with various chronic diseases while making them aware of disease-specific triggers that call for tailored interventions.

3. METHODOLOGY

3.1 Study Design and Sampling

A cross-sectional study was employed among 180 community-dwelling older people. The participants were recruited using the purposive sampling method from seven Elderly Activity Centres in Selangor (Pusat Aktiviti Warga Emas (PAWE) Sungai Buloh, Jenjarom, Sabak Bernam, Kg. Kenanga, Kg. Sri Langkas Tambahan, Felda Bukit Cerakah, and Taman Sri Kantan, Kajang).

3.2 Inclusion and Exclusion Criteria

The participants were community-dwelling older people aged 65 years and above and literate with good command of the English language. Older people will be excluded from this study if they have a physical impairment and are dependent or need assistance in daily living or instrumental activities.

3.3 Research Instruments

3.3.1 Socio-demographic profile

A socio-demographic profile was used to identify participant characteristics. Participants were asked for information on their age (65 to 74, 75 to 84, or more than 85 years), gender (male, female), types of living (living with a family member, living alone), educational level (no education, primary education, secondary education, tertiary education), working status (workers, non-workers), number of medical illness (at least 1, at least 2, more than 2 illnesses).

3.3.2 Multidimensional Fatigue Inventory (MFI) – 20

The MFI-20 is a self-report, paper and pencil measuring instrument requiring between 5 to 10-minute to measure fatigue. It consists of five dimensions: General Fatigue, Physical Fatigue, Mental Fatigue, Reduced Motivation, and Reduced Activity. Each domain consists of four items Likert Scale with possible answers on a five-point (1 = “yes, that is true”; 5 = “no, that is not true”). The total score ranges from 4 to 20 on each subscale and 20 to 100 for the total fatigue score, with a higher score indicating higher fatigue levels. In an initial psychometric evaluation (Smets et al, 1995), developers reported an internal consistency ranging from 0.53 to 0.93. The scale was also sensitive to differences between the participant groups.

3.4 Data Collection Procedures

This study was approved by the UiTM Research Ethics Committee (REC/330/19), the Social Welfare Department (JKMM 100/12/5/2:2019/263), and each Elderly Activity Center in Selangor. Prior to data collection, the older people were screened based on inclusion and exclusion criteria. Next, the researcher obtained consent from the participants. Afterwards, participants were asked to fill up the socio-demographic profile and the MFI-20 to measure their fatigue levels. Instructions to fill up the forms were given following the test instructions. The assessment was carried out from May 2019 to July 2019 at seven Elderly Activity Centres in Selangor.

3.5 Sample Size

Raosoft Sample Size Calculator, an online software, calculates the sample size. The margin error used in this calculator is 5%, followed by a confidence level of 95% of the response distribution. Currently, there are 250 older people actively involved in the 7 PAWE centres in Selangor (Ali, Pegawai JKM-Personal communication, 30 Mac 2019). Therefore, the minimum sample size needed is 152. However, this study managed to get a sample of 180 participants.

3.6 Data Analysis

Statistical analysis was conducted using the Statistical Package for Social Sciences (SPSS) software for Windows 27.0. Descriptive analyses (i.e., mean, standard deviation (SD), frequency, and percentage) were performed to characterise the study sample's socio-

demographic variables and the various dimensions of fatigue. Means and SD were shown for continuous variables, while frequency and percentage were reported for categorical variables. In addition, a descriptive analysis for fatigue scores using the MFI-20 was also presented in the table for means and SD.

Group differences in fatigue scores across various socio-demographic variables were analysed by comparing the mean scores of each subscale; either using an independent t-test and one-way ANOVA for parametric analysis (normally distributed data) or Mann-Whitney U test and Kruskal Wallis test for nonparametric analysis (non-normal data), subjected to the normality of the data. The logistic regression analysis tested the associations between fatigue and medical conditions among older people. All analyses were considered statistically significant at a p-value of <0.05.

4. RESULTS

4.1 Socio-Demographic Characteristic

A hundred and eighty (180) older people were the participants in this study. The majority were between 65 to 74 years old (80.6%), and mainly amongst women (59.4%). There were about 89.4% of participants who are unemployed and had at least a secondary school education (39.4%), at least two types of illnesses (33.9%) and living with family members (88.9%). Table 1 shows the demographic characteristic of participants.

Table 1 Demographic Characteristic of Participants (N = 180)

Participants	Frequency (n = 180)	Percentage (%)
Age		
Age group: 65 to 74 years	145	80.6
Age group: 75 to 84 years	31	38.8
Age group: 85 and above	4	2.2
Men	73	40.6
Women	107	59.4
Living with a family member	160	88.9
Living alone	20	11.1
No education	28	15.6
Primary education	56	31.1
Secondary education	71	39.4
Tertiary education	25	13.9
Unemployed	161	89.4
Workers	19	10.6
At least 1 chronic condition	59	32.8
At least 2 chronic condition	61	33.9
More than 2 chronic conditions	60	33.3

4.2 Fatigue Level based on the MFI-20

The results of the fatigue score are presented in Table 2. By referring to the value of Mean and Standard Deviation, SD, it can be said that most participants rated higher scores in Physical Fatigue, mean \pm SD (11.39 \pm 1.90). It was followed by Reduced Activity, mean \pm SD (11.21 \pm 2.04), and Mental Fatigue, mean \pm SD (10.34 \pm 2.28). Reduced Motivation, mean \pm SD (9.88 \pm 2.46); and General Fatigue, mean \pm SD (9.74 \pm 2.19). Refer to Table 2 for the fatigue score using the MFI-20.

Table 2 Score of Fatigue using the MFI-20

Type Fatigue Level	Mean	Standard Deviation
Total Fatigue Score	52.48	6.95
General Fatigue	9.74	2.19
Physical Fatigue	11.39	1.90
Reduced Activity	11.21	2.04
Reduced Motivation	9.88	2.46
Mental Fatigue	10.34	2.28

4.3 Differences in Fatigue between the Socio-Demographic Variables

The association between fatigue and socio-demographic characteristics, such as age, gender, working status, living with family members and various illnesses, for older people were identified. There is an association between Reduced Motivation and age ($p = 0.03$), and Reduced Activity and education level ($p = 0.03$), and General Fatigue and chronic conditions ($p = 0.04$). Table 3 shows the respondents' distribution of five fatigue scales and socio-demographics.

4.4 Logistic Regression

Binomial logistic regression was performed to ascertain the effects of medical conditions, including Type 2 Diabetes Mellitus, Hypertension, Heart Disease, Hyperlipidemia, and Asthma, on the likelihood that the person had fatigue. From the results, Type 2 Diabetes Mellitus added significantly with Mental Fatigue ($p = 0.05$), and Asthma was significantly with all fatigue scales; Total Fatigue ($p = 0.01$), General Fatigue ($p = 0.02$), Physical Fatigue ($p = 0.02$), Reduced Motivation ($p = 0.01$) and Reduced Action ($p = 0.04$) except Mental Fatigue. Refer to Table 4.

Table 3 The Distribution of Five Fatigue Scales and Socio-Demographics among the Respondents (N=180)

	Total Fatigue		General Fatigue		Physical Fatigue		Mental Fatigue		Reduced Motivation		Reduced Activity	
	Mean (SD)	<i>p</i>	Mean (SD)	<i>p</i>	Mean (SD)	<i>p</i>	Mean (SD)	<i>p</i>	Mean (SD)	<i>p</i>	Mean (SD)	<i>p</i>
Age 65-74 (n=145)	52.82 (6.85)	0.42	9.82 (2.17)	0.59	11.45 (1.86)	0.44	10.29 (2.30)	0.60	10.02 (2.38)	0.03*	11.35 (1.98)	0.14
Age 75-84 (n=31)	51.10 (7.62)		9.42 (2.33)		11.29 (2.12)		10.68 (2.27)		8.97 (2.69)		10.65 (2.24)	
Age 85 and above (n=4)	51.00 (4.08)		9.25 (1.89)		10.25 (1.50)		9.75 (1.26)		11.75 (1.50)		10.25 (2.06)	
Men (n=73)	53.03 (6.93)	0.39	9.96 (2.16)	0.27	11.41 (1.71)	0.92	10.34 (2.24)	0.99	10.05 (2.28)	0.43	11.48 (1.98)	0.14
Women (n=107)	52.11 (6.97)		9.59 (2.20)		11.38 (2.03)		10.35 (2.31)		9.76 (2.57)		11.02 (2.07)	
Living with a family member (n=160)	52.79 (6.79)	0.56	9.94 (2.09)	0.67	11.34 (1.86)	0.56	10.42 (2.28)	0.70	9.98 (2.38)	0.22	11.23 (1.99)	0.51
Living alone (n=20)	50.05 (7.84)		8.15 (2.30)		11.85 (2.21)		9.75 (2.20)		9.10 (2.93)		11.00 (2.41)	
No education (n=28)	50.00 (6.23)	0.22	9.36 (2.23)	0.63	10.89 (1.71)	0.44	10.64 (2.30)	0.25	9.07 (2.36)	0.31	10.14 (2.09)	0.02*
Primary education (n=56)	52.61 (7.16)		9.63 (2.48)		11.57 (1.99)		9.96 (2.26)		9.98 (2.74)		11.45 (1.82)	
Secondary education (n=71)	53.20 (7.24)		9.87 (1.98)		11.38 (1.98)		10.66 (2.26)		10.06 (2.34)		11.30 (2.10)	
Tertiary education (n=25)	52.96 (6.08)		10.04 (2.05)		11.60 (1.68)		9.96 (1.95)		10.04 (2.17)		11.60 (2.00)	
Unemployed (n=161)	52.36 (6.97)	0.49	9.67 (2.20)	0.82	11.40 (1.95)	0.22	10.29 (2.19)	0.09	9.88 (2.43)	0.39	11.19 (2.05)	0.91
Workers (n=19)	53.53 (6.85)		10.32 (1.97)		11.37 (1.50)		10.79 (2.89)		9.89 (2.66)		11.32 (2.00)	
At least 1 chronic condition (n=59)	51.68 (6.70)	0.41	9.15 (2.36)	0.04*	11.34 (2.03)	0.83	10.02 (2.17)	0.32	10.02 (2.38)	0.42	11.34 (2.09)	0.81
At least 2 chronic conditions (n=61)	52.38 (7.06)		9.93 (1.92)		11.33 (1.84)		10.36 (2.03)		9.54 (2.51)		11.18 (2.06)	
More than 2 chronic conditions (n=60)	53.38 (7.08)		10.12 (2.17)		11.52 (1.86)		10.65 (2.59)		10.08 (2.48)		11.10 (1.99)	

*Statistically significant ($p < 0.05$)

Table 4 Hierarchical Binary Logistic Regression Models for Medical Conditions (Type 2 Diabetes Mellitus, Hypertension, Heart Disease, Hyperlipidemia, and Asthma) and All Fatigue Scales

	Total Fatigue		General Fatigue		Physical Fatigue		Mental Fatigue		Reduced Motivation		Reduced Activity	
	Sig	Exp (B) with 95% CI	Sig	Exp (B) with 95% CI	Sig	Exp (B) with 95% CI	Sig	Exp (B) with 95% CI	Sig	Exp (B) with 95% CI	Sig	Exp (B) with 95% CI
Type 2 Diabetes Mellitus (Yes = 150, No = 30)	0.14	0.74 (0.49, 1.10)	0.18	1.30 (0.88, 2.00)	0.25	1.29 (0.84, 2.00)	0.05*	1.60 (1.00, 2.54)	0.15	1.36 (0.90, 2.06)	0.31	1.29 (0.79, 2.10)
Hypertension (Yes = 96, No = 84)	0.45	1.11 (0.86, 1.44)	0.52	0.92 (0.70, 1.20)	0.96	0.99 (0.74, 1.33)	0.40	0.88 (0.66, 1.17)	0.62	0.93 (0.70, 1.24)	0.46	0.88 (0.63, 1.23)
Heart Disease (Yes = 159, No = 21)	0.30	1.25 (0.82, 1.90)	0.92	0.98 (0.63, 1.51)	0.24	0.74 (0.45, 1.22)	0.98	1.00 (0.64, 1.59)	0.10	0.68 (0.43, 1.07)	0.42	0.80 (0.47, 1.37)
Hyperlipidemia (Yes = 59, No = 129)	0.85	0.97 (0.74, 1.28)	0.08	1.30 (0.97, 1.75)	0.90	0.98 (0.71, 1.35)	0.98	0.99 (0.74, 1.35)	0.65	1.07 (0.79, 1.46)	0.13	0.75 (0.52, 1.09)
Asthma (Yes = 11, No = 169)	0.01*	2.30 (1.25, 4.27)	0.02*	0.46 (0.24, 0.87)	0.02*	0.46 (0.23, 0.90)	0.07	0.54 (0.28, 1.05)	0.01*	0.44 (0.24, 0.81)	0.04*	0.45 (0.21, 0.97)

*Statistically significant ($p < 0.05$)

5. DISCUSSION

The current study analysed the fatigue levels and their associated demographic factors among community-dwelling older people attending Elderly Activity Center (PAWE). The influence of medical conditions (Type-2 diabetes, hypertension, heart disease, hyperlipidemia, and asthma) on fatigue levels were also explored.

Consistent with our current findings, the previous study also has shown that community-dwelling older people have the highest Physical Fatigue score (Hardy & Studenski, 2010). The physical fatigue qualities common among older people were sleepiness, low energy, and weakness (Sullivan, 2015). By using the MFI-20, the older people have been asked questions including Question 2: “*Physically, I am able to do little*”, Question 8: “*Physically, I can take on a lot*”, Question 14: “*Physically, I feel I am in bad condition*”, and Question 20: “*Physically, I feel I am in excellent condition*”. Most have been physically fatigued lately by reporting little activities and feeling lousy. A previous study reported an association between fatigue and physical activity and the level of older people (Egerton et al., 2016). It is encouraged that more senior people engage in activities that strengthen or stabilize muscles to prevent disabilities and disorders caused by loss of muscle mass which can lead to loss of muscle strength (Murphy & Niemiec, 2014).

The current study found a significant association between age and Reduced Motivation, as in the previous study (Phillips et al., 2004). According to Minhat and Mohd Amin (2011), community-dwelling older people engaged in leisure and recreational activities such as watching television and playing sports, followed by related cognitive activities, such as reading books, Quran, writing or drawing, social participation activities such as meeting or visiting friends or other family members and work-related activities such as cooking, gardening and making crafts. The older people were motivated to participate in physical activity if they perceived enjoyment, improved health, mood, and independence and reduced falls (de Groot & Fagerström, 2010). Lack of motivation was found to be one of the barriers to engagement in physical activities among older people, as well as reduced health status, unpleasant experiences, and environmental factors (Yarmohammadi et al., 2019). Therefore, clinicians and other health professionals should encourage older people to initiate and stay motivated to continue physical activities to maintain their body health and improve psychosocial well-being.

Other than that, our findings show a significant difference between Reduce Activity and the educational level of older people. Educated people have better occupational engagement at an older age than those with a low level of education (Shaw et al., 2007). This study supported the preliminary insight of the previous study, which reported the difference in physical activity between high and low-educational-level older people. Educated older people who worked commonly not associated with physical activity will seek many physical activities after leaving the workforce (Shaw et al., 2007). They further explained that it contrasts with low educated older people who rely on their physical afford, such as farmers, carpenters and fishermen, and tend to decline physical activity as they transition out of the workforce.

Moreover, this study also found an association between the number of illnesses and General Fatigue. The current study highlighted that combining more than two illnesses may influence fatigue among community-dwelling older people. Fritschi et al. (2012) explained that chronic fatigue is most associated with cancer, chronic obstructive pulmonary disease, rheumatoid arthritis, depression, fibromyalgia, and diabetes. The present illness may interfere with older people’s activities of daily living performance and affect their quality of life.

In line with a former research finding, older people who suffer from Type 2 Diabetes Mellitus have significant Mental Fatigue (Fritschi & Quinn, 2010). The term “diabetes emotional distress” was used to represent the related work of managing and living with diabetes (Fritschi & Quinn, 2010). The regime of insulin therapy influenced physical symptoms, mood states, and general well-being, including fatigue. In diabetes patients, the reason for fatigue is an alteration of blood glucose levels and may result in acute and chronic hyperglycemic episodes, hypoglycemia or blood glucose fluctuations. Other than that, older people with asthma were significantly associated with all fatigue scales except Mental Fatigue. The current study suggested that older people with asthma generally have multiple fatigue dimensions. According to Pasha et al. (2017), compared to younger asthmatics, senior asthmatics have worse quality of life, higher rates of morbidity, worse overall health, signs of depression, and greater restrictions on daily activities.

6. CONCLUSION

In conclusion, the present study suggested that physical fatigue is the most prominent in older people among other fatigue dimensions. This study highlighted the relationship between socio-demographic factors and fatigue levels among older people. An increase in age was related to Reduced Motivation, a higher education level was related to Reduced Activity, and the more significant number of illnesses present was associated with General Fatigue. Chronic diseases such as Type 2 Diabetes Mellitus and Asthma potentially impact fatigue among older people. Therefore, effective fatigue management considering all cohabiting factors should be encouraged in treating fatigue among community-dwelling older people. The limitation of the present study is that no screening test was done to determine the cognitive level of the respondents. The respondents answered based on self-declaration. For future research, the symptoms of fatigue among Type 2 Diabetes Mellitus older people should be linked with physical performance or activity to get more significant findings in the study.

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AUTHOR CONTRIBUTION STATEMENT

NSB, SST, and MAA wrote the introduction and literature review sections. NFMR collected and refined the data. NFMR and NSB performed the data analysis using statistical analysis. NSB, AZCD, and HAA also wrote the data methodology and the discussion sections. All authors read and approved the final manuscript.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that they have no conflict of interest.

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APPENDIX

Appendix 1. Survey Instrument: Multidimensional Fatigue Inventory (MFI) – 20

Responses	Items	Sources
Yes, that is true 1,2,3,4,5 No, that is not true	1. I feel fit	
Yes, that is true 1,2,3,4,5 No, that is not true	2. Physically, I feel only able to do little	
Yes, that is true 1,2,3,4,5 No, that is not true	3. I feel very active	
Yes, that is true 1,2,3,4,5 No, that is not true	4. I feel like doing all sorts of nice things	
Yes, that is true 1,2,3,4,5 No, that is not true	5. I feel tired.	
Yes, that is true 1,2,3,4,5 No, that is not true	6. I think I do a lot in a day.	
Yes, that is true 1,2,3,4,5 No, that is not true	7. When I am doing something. I can keep my thought on it.	
Yes, that is true 1,2,3,4,5 No, that is not true	8. Physically, I can take on a lot	
Yes, that is true 1,2,3,4,5 No, that is not true	9. I dread having to do things.	
Yes, that is true 1,2,3,4,5 No, that is not true	10. I think I do a little in a day.	Smets et al. (1995)
Yes, that is true 1,2,3,4,5 No, that is not true	11. I can concentrate well	
Yes, that is true 1,2,3,4,5 No, that is not true	12. I am rested	
Yes, that is true 1,2,3,4,5 No, that is not true	13. It takes a lot of effort to concentrate on things	
Yes, that is true 1,2,3,4,5 No, that is not true	14. Physically, I feel I am in bad condition	
Yes, that is true 1,2,3,4,5 No, that is not true	15. I have a lot of plans	
Yes, that is true 1,2,3,4,5 No, that is not true	16. I tired easily	
Yes, that is true 1,2,3,4,5 No, that is not true	17. I get little done	
Yes, that is true 1,2,3,4,5 No, that is not true	18. I don't feel like doing anything	
Yes, that is true 1,2,3,4,5 No, that is not true	19. My thoughts easily wander	
Yes, that is true 1,2,3,4,5 No, that is not true	20. Physically, I feel I am in excellent condition	

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A Speech Act Study of Online Comments towards COVID-19 Report in the Malaysian National Security Council's Official Facebook Page

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ABSTRACT

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The COVID-19 pandemic has adversely affected the world, crippling its economies, impacting the education system, and debilitating emotions and mental health. However, with the emergence of new virus mutations, Malaysia has yet to win the battle against this wave of COVID-19. This has led to diverse reactions among its citizens. We observe that many Malaysians are now flooding their social media platforms to vent their frustration or even blame various parties for this COVID-19 spike in the country. Hence, this study was designed to investigate the speech acts employed by Malaysian Facebook users in constructing their online comments amid the COVID-19 crisis. The study corpus consisted of 555 Facebook comments to daily reports of COVID-19 cases published on the Facebook page of the Malaysian National Security Council in July and August 2021. The entire data was coded using ATLAS.ti version 22. Based on the findings, we discovered that the most frequently constructed speech acts in this study corpus were assertive, followed by expressive and directive, which were addressed to two target recipients: the government and the public. The analysis of this study would enable us to understand the various ways language is used in computer-mediated communication, particularly the types of speech acts used in social media such as Facebook.

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1. INTRODUCTION

In December 2019, the outbreak of novel coronavirus disease 2019 (COVID-19) was first detected in Wuhan, China (Yang, et al., 2020). From there, it quickly spreads globally, resulting in the World Health Organization (WHO) declaring it a global pandemic (disease transmission among people in many countries and causing death) on March 12, 2020. To date, we can still clearly see the entire world is facing tremendous effects from this deadly pandemic in terms of health, economy, education, tourism, transportation, industry, trade, and the poverty level. With COVID-19 now termed as an endemic and without proper management of this virus, we will keep shouldering its impact, especially on our psychological responses. These psychological responses like fear, anxiety and confusion are key determinants for our outcoming behaviours (Pakpour & Griffith, 2020). Psychological responses might bring in different results in different individuals. For instance, having a low level of anxiety may lead to reluctant prevention behaviours, such as not practising handwashing regularly, whereas having a high level of anxiety may drive people to socially disruptive behaviours like panic buying (Taylor et al., 2020). These two examples of having low and high levels of psychological responses will not benefit us in combating this virus. Recently, we also saw psychological responses being expressed using social media platforms. When the comfort in the company of others is missing due to Movement Control Order (MCO) implemented by the Malaysian government, the role of social media in one's life cannot be underestimated (Hussain, 2020). Some Malaysians vent their psychological responses of anger and frustration towards various parties about COVID-19 through their social media accounts.

2. LITERATURE REVIEW

2.1 Social Media

In Malaysia, social media is used to spread positive and negative messages related to COVID-19. The use of social media amid the COVID-19 pandemic is seen to bring a sense of unity, and at the same time, it may also act as a ground for misinformation and discrimination (Hussain, 2020) if not properly managed. This abundance of data available on social media platforms should be studied, particularly on the language aspects, as we could identify and analyse the use of language in every comment posted online. The essential use of a language is mainly to communicate intended messages to others. The exciting part of a language is not just the message that we want to deliver, but when we communicate, the language that we use is always linked to our individual experiences, such as linguistic attitude, cultural influences, and personal perception (Anyanwu & Abana, 2020). Language too is used to express one's feelings, ideas, and desires (Mutmainnah & Sutopo, 2016). Previously, many language studies have been centralised towards stable concepts, but now we can observe that these concepts are rapidly changing as our lives are shifted to online platforms (Barton & Lee, 2013). When this changing shift occurs, notions of interaction must be reassessed.

2.2 Speech Acts

Speech acts are a part of communication and can control the meaning of sentences (Rosyidi et al., 2019). When people communicate using language, utterances will be produced, through which a particular act i.e., speech act is performed (Dylgjeri, 2017). An utterance is a speech analysis unit that can be varied based on the context of communication. When a speaker utters a sentence, there must be a meaning that they want to convey and their intention of saying it. This intention of saying something is known as a speech act. The speech act is commonly used to interpret meaning in a particular context (Yule & Widdowson, 1996). A speech act is an

utterance defined in terms of a speaker’s intention and its effect on a listener. Speech act theory was introduced by Austin (1962) and further developed by Searle (1969). According to Austin (1962), there are three types of speech acts that utterances are said to perform (refer Table 1).

Table 1 Types of speech acts developed by Austin (1962)

Type	Explanation
Locutionary	The basis of the utterance (what speakers say) / The act of saying something with meaning and truth value
Illocutionary	The intended meaning of what speakers say / The action one performs in saying something
Perlocutionary	The effect of what speakers say / How the speaker tries to affect his listener

This speech act theory perceives utterances as having actions in themselves, which can yield immense effects on the hearers, bringing many changes in us. The three types of speech act portrayed above can be identified in any type of communication, for instance, when the government gives orders to its people or when parents stop children from doing something (Rosyidi et al., 2019). Table 2 shows the five categories of speech acts proposed by Searle (1969).

Table 2 Categories of Speech Acts by Searle's (1969)

Category	Explanation	Example
Assertives	Speakers try to get listeners to form a belief or a specific idea, regardless of its truth	<i>("Out for a while")</i>
Directives	Speakers try to get listeners to do something	Begging, commanding, requesting <i>("Don't forget to turn off your data, #fams".)</i>
Commissives	Speakers commit themselves to a future course of action	Promising, guaranteeing <i>("I want to always do the right thing, even when the right thing is a difficult thing to do".)</i>
Expressives	Speakers express their feelings	Apologising, welcoming, sympathising <i>("I'm soooooooooo happy for u!!!!!!" @.)</i>
Declarations	Speaker’s utterance brings about a new external situation	Christening, marrying, resigning, declaring war <i>("You are dead to me".)</i>

In relation to this study, the categories of speech act in CMC will be analysed and identified based on comments made by Malaysians on the Malaysian National Security Council Facebook account. The difference in speech acts found in Malay and English responses will be further studied.

3. METHODOLOGY

3.1 Data selection

The study corpus consists of 555 Facebook comments. These were posted as responses to the daily reports of COVID-19 cases (between July and August 2021) on the Facebook page of the Malaysian National Security Council, accessible via the link: <https://www.facebook.com/MKNJPM/>. It is a government agency responsible for the management and coordination of security-related policies, which plays an essential role in managing safety issues affected by COVID-19. During the pandemic, the agency took immediate action to control the virus spread by implementing the standard operating procedure (SOP) in four progressive phases identified as phases one, two, three, and four as part of the

national recovery plan (Majlis Keselamatan Negara, 2021). As a means of communicating with and disseminating information about COVID-19 to the public, the agency fully utilises its Facebook page, followed by over one million followers, by posting current updates about the pandemic on the social networking site. Some of their postings encompassed the latest statistics of cases and rates of infection, recovery, and vaccination.

Data were collected using the purposive sampling method as it was meant to identify information-rich cases for us to derive the answers to our research questions (Patton, 2015). According to Patton (2015), the purposive sampling strategy should be determined when researchers have done the following: determine inquiry purposes, focus inquiry questions and decide the type of data to collect. Therefore, the researchers selected Facebook comments as the type of (online) data for this study. This was accomplished by conducting the criterion sampling strategy, as the selection criteria were determined before the data collection (Schreier, 2018). Furthermore, the computer-mediated discourse analysis approach underscores that sampling for online discourse is motivated by several aspects rather than carried out randomly (Herring, 2004). Extending the criterion sampling, we also applied the sampling technique proposed by (Herring, 2004), so the data were selected based on the sampling by the theme technique, for example, all messages in a particular thread and time technique or all messages in a specific interval of time. An explanation is provided below on how these were applied in this study.

Every comment was collected using the copy-paste method into a Microsoft Word .doc template purposely created for this study. Initially, our corpus consisted of 570 comments. However, 15 were found irrelevant to the Facebook posts, hence, were deleted from the corpus. In addition, we only selected direct comments for each daily report. Thus, indirect comments were omitted. These indirect comments were primarily sent as replies to the direct comments rather than directly to a post. Hence, the data in our study were limited to those speech acts that occurred in the direct comments only. These 555 comments were written in English and Malay, 32 and 523, respectively. Although there were comments written in a code mix, we categorised them as either English or Malay comments because the code mix excerpts constituted a minimal part of the entire comments. All these did not pose any problems in understanding the comments because both languages are spoken as our native language (Malay) and a second language (English). Hence, it required no translation for the coding purpose.

We coded the data in several rounds by addressing one question at a time using ATLAS.ti version 22 as our main coding software. ATLAS.ti, as a tool for computer-assisted qualitative data analysis (CAQDAS), has the main advantage of easing data management and retrieval as opposed to conducting a manual data analysis. As a tool utilised for qualitative data analysis, ATLAS.ti have similar functionalities to other CAQDAS tools (Paulus & Bennett, 2017). Researchers can conduct a single-coder or multi-coder data analysis, create codes using various coding functions depending on researchers' coding purposes (e.g. Open coding, in-vivo coding, quick coding), merge codes, generate code graphs and tables, as well as merge different projects by using the software (Friese, 2012; Hwang, 2008). Although coding can be done manually, we found it easier to use the software to create, delete and merge codes for data analysis. Nevertheless, our primary role in identifying the meanings and determining and applying the codes to the data was not substituted by the software because we only used it as a tool to support our analysis process (Paulus et al., 2017). Both researchers were involved in the coding process, primarily to identify the types of speech act in the comments, guided by the analytical framework developed for this study adapted from Carr et al. (2012).

Table 3 Analytical Framework for the Coding Process

Speech Act	Speech Act Properties
Assertive	Statements of fact, getting the viewer to form or attend a belief
Directive	The sender uses this to get the receiver to do something
Commissive	The sender commits himself to doing something
Expressive	The sender expresses feelings toward (though not necessarily about) the receiver
Effective	To change an institutional state of affairs
Verdictive	To determine what is the case in an institution
Quotation	The message is not originally produced by the sender

4. FINDINGS

4.1 Types of Speech Acts in the Facebook Comments

Our analysis revealed five speech acts used in Facebook comments to the official reports of COVID-19 cases. This is summarised in the following chart:

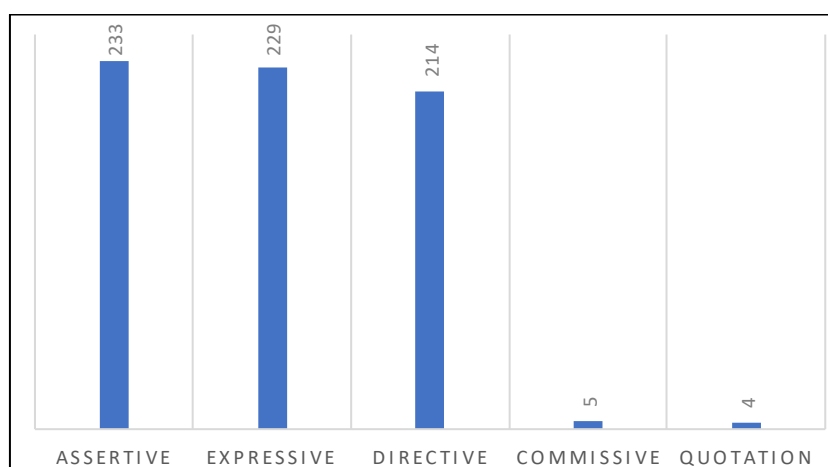


Figure 1 Types of speech acts in Facebook comments

As seen in the chart, the most frequently used speech act was assertively followed by expressive and directive. Our findings corroborated the findings of Carr et al. (2012). Our analysis shows that there were specific reasons associated with each speech act chosen by the Facebook commentators to post their comments to the daily report uploaded on the official Facebook page of the Malaysian National Security Council.

4.1.1 Functions of the assertive speech act

A sender performs an assertive speech act to get their recipient to form or attend to a belief (Clark, 1996). Statements conveyed in this speech act with the same specific function were found in our data, but they pointed to several more detailed functions of the assertive speech act. Several comments are related to the government's vaccination program. The commentators would remark on the vaccination process initiated by the government. Often, these statements were about their delayed vaccination appointment (excerpt 1). Besides, through this speech act, the commentators would also provide information on the most recent vaccination statistics (excerpts 1-2). In another excerpt, we found that one of the commentators asserted by justifying it as information shared by an expert in virology (excerpt 3). This strategy helped to reinforce

the weight of their assertion and convince others to believe them. In some of the samples, the Facebook commentators performed the assertive speech act to restate the number of new cases (excerpts 4 and 5). Although their comments were directly posted to daily reports, those commentators showed the tendency to restate the information to underscore the severity of COVID-19 effects on the community. Besides stating facts and information using the assertive speech act, there were also comments that could instigate anxiety among the public and prejudice against the government due to some groundless rumours asserted using this speech act (excerpts 6 and 7). These comments could be deleterious, especially if they were read by other Facebook users who refrained from verifying the truth of such information. Table 4 shows the assertive speech act subthemes and excerpts.

Table 4 Assertive Speech Act Subthemes and Excerpts

Subthemes	Excerpts
1. To make statements related to the government's vaccination program	<i>"Vaccination rate in KL has reached 110% however as KL-ite, I have not received the appointment date yet". Excerpt 1</i> <i>"16 million from 60+million number of doses." Excerpt 2</i> <i>"Yesterday I listened to a very detailed and clear explanation from an expert in virology with more than 30 years of experience, Dr (name), related to Covid-19 and ways to combat it." Excerpt 3</i>
2. To make statements about new cases related to the COVID-19	<i>204k, and I'm still not one of them..." Excerpt 4</i> <i>144 deaths" Excerpt 5</i>
3. To assert controversial remarks about the vaccination effort	<i>"Imports run as usual. Vaccination will be failed by lambda... lambda gen will hit us next..." Excerpt 6</i> <i>"Vaccination system practices cronyism... Younger people than us registered later and they had their jab.. We have registered since February but still no jab yet" Excerpt 7</i>

4.1.2 Functions of expressive speech act

An expressive speech act has the general function of expressing a feeling towards the recipient (Clark, 1996). In our data, the feelings can be split into two general types: positive and negative. This speech act indicated Malaysians' emotional reactions towards the COVID-19 pandemic. Table 5 shows the subthemes and excerpts under the category of expressive speech act. To express shock, a user expressed shock about the high number of deaths reaching three digits. This was indicated by the abbreviation for the informal exclamation "OMG". Using the expressive speech act, the commentators would express their worry about the country's current state, which was affected by COVID-19. In this speech act, they agonised over the failure of certain parties to control the virus from spreading uncontrollably rather than over the existence of the virus (excerpt 9). Besides, some commentators also expressed their sadness due to the high number of COVID-19-related cases realised by the expressive speech act (excerpt 10). Because the COVID-19 issue had caused grievous suffering to the citizens, mainly due to how the country handled it, these Facebook commentators also expressed their anger and disappointment by using the expressive speech act. While others had the tendency to express rather negative feelings about the spread and impact of COVID-19, some Facebook commentators could remain positive through their expression of hope conveyed by this speech act (excerpt 13). This was written as a prayer to ask for protection from the Almighty God. However, excerpt 14 contained an opposite meaning, although it was equally expressed as a prayer. In this expression, the Facebook user prayed for the Almighty's punishment against those in power as they were perceived to have made grave mistakes in managing COVID-19 which had caused the citizens to be in distress.

Table 5 Functions of Expressive Speech Act

Subthemes	Excerpts
1. To express shock	<i>"OMG! the death rate." Excerpt 8</i>
2. To express worry and sadness	<i>"Economic rebound.. I am a user of LRT and commute to work. I am worried about the RAPID operator/infrastructure not controlling the SOP. The seating arrangement is according to physical distancing but not those standing..crowded with immigrants, no SOP! I stayed at home for two months,daily cases are increasing...I am sad 😞😞"</i> Excerpt 10
3. To express frustration and anger	<i>"Damn it..selangor will only enter phase 2 in 2030 This is how to control the country's safety! Dissapointing!"</i>
4. To express hope	<i>"May the cases continue dropping..May Allah take away this deadly virus..and we can resume our lives as usual". Excerpt 13 "May you not receive a blessing from God for what you have done for the people". Excerpt 14</i>

4.1.3 Functions of directive speech act

A directive speech act is intended to get the recipient to do something (Clark, 1996). Our study also shows that Malaysians would use this speech act addressed to their virtual recipients to advise them about COVID-19. Table 6 shows the subthemes and excerpts under the category of directive speech act.

Table 6 Functions of Directive Speech Act

Subthemes	Excerpts
1. To give advice to the government	<i>"Where did it go wrong? Be sincere in giving information to the people". Excerpt 15 "Jab for vaccination could be done from house to house ...like population census ..therefore, lesser risk of infection while getting vaccinated" Excerpt 16 "It is hoped that the MINISTRY OF HEALTH MALAYSIA could speed up the clinical testing for ivermectin on humans so that we can be free just like 2 years ago". Excerpt 17 "It is hoped that the citizen-concerned government under the PRIME MINISTER AND DEPUTY PRIME MINISTER gives leeway to the people who have completed their vaccination". Excerpt 18</i>
2. To give advice to fellow Malaysians	<i>"Let's get vaccinated guys. We could reach the herd community. Do not be scared and trust fake news about vaccination. Watch this video, may it help to alleviate your worries about the effect of vaccination. https://youtu.be/TXU7csvq438 Kesan Vaksin SINOVAQ YOUTUBE.COM". Excerpt 24 "Follow sop. Take care of yourself and family". Excerpt 25</i>

The directive speech act directed at the government includes commands, requests or suggestions related to sharing of information about new cases (excerpt 15), the COVID-19 vaccination program (excerpt 16), clinical trials of alternative medicine to COVID-19 vaccines (excerpt 17), and relaxation in the enforcement of the standard operating procedure (SOP) during the pandemic (excerpt 18). Contrary to the latter requests, other Facebook commentators requested the government to be stricter in their law enforcement to help curb the virus spread. Another purpose of employing the directive speech act was also for the government to learn or emulate the management of the COVID-19 virus implemented by other countries such as China and Thailand. Besides, we found the speech act was used in Facebook comments to advise the

government to learn from other countries mistakes. In contrast to the directive speech act intended for the government, Facebook commentators who employed the same speech act for fellow Malaysians did so because they were concerned about each other's well-being. Using this speech act, they encouraged fellow Malaysians to vaccinate themselves and even reinforced their encouragement by providing a YouTube link for the targeted audience to watch the informative video (excerpt 24). In another excerpt, the Facebook user advised others to abide by the SOP for their and their family's safety (excerpt 25).

4.1.4 Functions of commissive and quotation speech acts

The commissive speech act commits the Facebook comment writer to do something (Clark, 1996), while the quotation speech act is copied from other sources (Carr et al., 2012). Besides the three very frequent speech acts, our corpus also had instances of the commissive and quotation speech acts, which occurred at a much lower frequency than those three. The commissive speech act was often used to warn the government of their disappointment with the increasing number of COVID-19 cases (excerpts 26-27). As for the quotation speech act, the quotation was adopted from the widely used tagline derived from the Malaysian government's campaign to increase awareness among Malaysians about the importance of safeguarding themselves and their loved ones against COVID-19 (excerpts 28-29). Table 7 shows the subthemes and excerpts under the category of commissive and quotation speech acts.

Table 7 Functions of Commissive and Quotation Speech Acts

Subthemes	Excerpts
1. commissive speech act	<i>"We..the citizens do value and observe your jokes, your behaviours. Hmmm". excerpts 26</i> <i>I'm not going to vote ever. excerpts 27</i>
2. quotation speech act	<i>"#let'stakecareofourselves". Excerpt 28</i> <i>"#stayathome". Excerpt 29</i>

4.2 Target Recipients of the Facebook Comments

Interestingly, we also found that the comments posted by the commentators were intended for two groups of recipients. One of the target recipients was the government, which was the target of most commentators, while the other was fellow citizens. When the speech acts were directed at the government, it was obvious that the commentators blamed the government for the perceived failure of COVID-19 management. Through the speech acts, blaming was expressed overtly by stating the recipient as the government in general or as a specific organisation. In some cases, the organisation was mentioned in an abbreviated form (excerpt 31).

"I don't know...strange...cases are getting weird..the government seems not to care". Excerpt 30

"KKM do not cheat people, death cases and side effects due to vaccination cannot be concealed just like that". Excerpt 31

There were also cases in which the government or its related organisations were not mentioned. Still, through closer scrutiny of the speech act, we could understand that the commentators were trying to blame the government for the seemingly weak enforcement of the movement control order.

"19k again and every sector is now open 😞 ops 😊". Excerpt 32

“How could the case not increase every day..those wearing pink bracelets are supposed to be doing home quarantine, but the truth is they are everywhere ”. Excerpt 33

When the comments were targeted at fellow citizens, the terms of address used were ‘guys’, ‘korang’, ‘kita’, and ‘sesiapa’, which were meant for the public in general. Some addressed the recipients specifically, as shown in excerpt (36).

“Let’s get vaccinated guys. We could reach the herd community. Do not believe in fake news about vaccination. Watch this video, may it help to alleviate your worries about the effect of vaccination. Subscribe, like and share, guys”. Excerpt 34

“Guys..please look at this ...May we receive protection from this critical situation 🙏”. Excerpt 35

“Please get vaccinated Pregnant Mothers”. Excerpt 36

Other than these, the target recipients were embedded within the speech acts. In other words, they were not clearly addressed but could be identified by closely examining the comments. For example, in excerpt (37), there was no specific target recipient stated, but through the directive speech act, the pronoun ‘you’ (Malay language second person pronoun, e.g. *Anda, awak, kamu, engkau*) was omitted and must be understood by the audience – an imperative structure similar to English imperative with the you-understood as viewed by traditional school grammar (Levenston, 1969). Meanwhile, in the following example, excerpt (38), the user seemed to greet their recipients by saying ‘*apa khabar*’, a Malay greeting equivalent to the English ‘how are you’ (Kuang et al., 2011). However, this could be read with a cynical tone. Instead of addressing the intended recipients explicitly using the second- or third-person pronoun, the subject was embedded in between the greeting and the phrase ‘*yang berjaya lepas balik raya hari tu*’ and ‘*yang*’ is a linking word equivalent to English ‘who’ (Dewan Bahasa Dan Pustaka Malaysia, n.d.). Even though the recipient was not spelt out in the comment, the linking word ‘*yang*’ can suggest that the intended recipients were those who had successfully returned home for the *Hari Raya* celebration during the pandemic.

“Keep following SOP, go out when necessary only ”. Excerpt 37

“How are (you) those who managed to go back to celebrate raya the other day 🤔🤔🤔 “. Excerpt 38

Although a large part of the blame was directed at the government, a few commentators still blamed their fellow citizens and attributed the spike in COVID-19 cases to their faults.

“Thousands of silent virus carriers, no wonder cases are increasing... ”. Excerpt 39

“Black Shirt Assembly Covid Cluster is now showing its consequences ”. Excerpt 40

“Jam..raya cluster is on the way ”. Excerpt 41

4.3 Distinctive Features used in Facebook Comments

Our analysis also shows eight distinctive features present in the Facebook comments. Five features – emoji, hashtag, abbreviation, orthographic emphasis, and repetitive speech- reflect those used in online communication. The other three – interjection, code-mixing, and profanity are more often used in face-to-face communication. Table 8 shows the subthemes and excerpts under the category of distinctive features used in Facebook comments.

Table 8 Distinctive Features used in Facebook Comments

Subthemes	Excerpts
1. Emoji	<i>Every day there must be import cases 🤔 It has been two months of staying at home; the cases continue spiking...so sad 😞😞😞</i>
2. Hashtag	<i>#stayathome #failgovernment PLEASE #closefactories</i>
3. Abbreviation	<i>Acronym: Do not open inter state or district travelling now, only allowed those being authorised by Miti & Police. Initialism: what happens to negeri sembilan's emco ??? Replacement: Lockdown is x like lockdown Emergency state is x like the real emergency. Elimination: The most hopeless gov! Combination: No need to implement mco or emco. Just open all sectors. Duplication: Impossible. It has been 2 years but still unsettled. Duplication alteration: Every day, counting the high cases..it's like everybody is just waiting to be infected</i>
4. Orthographic emphasis	<i>What is the GOVERNMENT's stand? Excerpt 53 Waste time lahhhhhhhhhhhh Excerpt 53 A lot. When will the lockdown take place to save Malaysians????????? Excerpt 53</i>
5. Repetitive speech act	<i>TOTAL LOCKDOWN 100% TOTAL LOCKDOWN 100%. Excerpt 56 Let's get vaccinated guys. We could reach the herd community. Do not believe in fake news about vaccination. Watch this video, may it help to alleviate your worries about the effect of vaccination. https://youtu.be/TXU7csvq438 Effects of SINOVAC YOUTUBE.COM. Excerpt 56</i>
6. Interjection	<i>I read 🙄. but can't understand la .. Where is the outcome for EMCO??? Over time it gets even more annoying....</i>
7. Code-mixing	<i>All irrelevant planning and no proper research. Why hasn't EMCO been announced?</i>
8. Loanword	<i>Boring. Excerpt 63 Come on, sir. Till when will it be like this? Excerpt 64</i>
9. Profanity	<i><u>Damn</u>...favoritism...well deserved. I've been at home for 3 months with this fxxx lockdown, EMCO, but no decrease in cases.</i>

Emojis were used in comments expressed using the three most frequent speech acts – expressive, assertive, and directive. The emojis were attached to assertive and directive speech acts to convey the commentators’ emotions which could not be expressed in words or attached to expressive speech act to intensify their feelings already expressed through the speech act.

The hashtag is intended initially to make messages or information more easily searchable. By employing hashtags, a social media user helps fellow users read posts indexed with the same keywords that may even be trending at any time. Our sample found instances of hash-tagged messages created based on the trending issue and topic circulated among Malaysian social media users. In addition, other users hash-tagged their messages for a different reason. When the hashtag was employed in their posts, they appeared to do so as a strategy to emphasise the

most important part of their posts which encompassed their call for action, expression of emotions, and outburst of profanity.

It was common to find the comments in our corpus written using abbreviated words. The abbreviation was identified in both Malay and English comments. The patterns adopted by these commentators to abbreviate the words were an acronym, initialism, replacement, elimination, combination, duplication, and reduplication alteration. There were no specific patterns used in completing a comment. Instead, these appeared to vary, which implies that the pattern selection was performed subconsciously.

The instances of orthographic emphasis found in the corpus were not limited to phrases written in capital letters (excerpt 53). This also included those spelled in repetitive letters (excerpt 54) and marked with repetitive punctuation marks (excerpt 55). The use of orthographic emphasis in performing part of a speech act functioned as an intensification of the speech act and conveyed a user's emotion enshrouded by the texts. Repetition of speech acts was found to occur in the same comment (excerpt 56), or a different comment posted on a different day (excerpt 57). The occurrence of this element in Facebook comments did not simply refer to the repetition of a specific type of speech act but rather the repetition of an entirely similar text which was expressed using the same speech act.

Speakers include interjections in their utterances as an expression of their current mental state and reactions toward certain elements present in a speech context (Ameka, 2006). Although this is commonly found in spoken interactions and dialogues, our analysis shows that Facebook commentators would include interjections in certain speech acts in their textual comments as they would in verbal interactions. Using these interjections did not necessarily mean that the commentators tried to convey their emotions, as some interjections in the Malay language can have various functions (Hoogervorst, 2018). In the following excerpts, the interjections emphasised assertive, directive, and expressive speech acts respectively.

Malaysia is a country with a rich cultural tapestry reflected in the various languages and dialects spoken by the people. This diversity was also reflected in the Facebook comments posted by the commentators through code-mixing. As most of these comments were written in Malay, the commentators code-mixed their comments between Malay and English, Malay, and various dialects and colloquials spoken by people from different Malaysian states. The use of loanwords is separated from the code-mixing category considering that a loanword can even emerge in a single language speech as the word is conventionally used as part of a language (Haspelmath, 2009). Many English words are loaned into the Malay language and integrated into daily conversations among Malay speakers. The use of loanwords was also detected in Malay speakers' Facebook comments. In excerpt 63, the loanword 'boring' deviated from its grammatical use in English, which is meant to encourage carrying out an action. However, it is common to find Malay speakers use this loanword to describe their feelings and urge others to think twice, as shown in excerpt 64. The COVID-19 pandemic has unsurprisingly negatively impacted people's emotional stability (Restubog et al., 2020). In Facebook comments, this was evident in the use of profanities mostly hurled at the government.

5. DISCUSSION

This study sought to examine what Facebook commentators do through their comments on the COVID-19 report posted on the official Facebook page of the Malaysian National Security Council. The analysis found that the commentators communicated their intent in various ways that can be organised in different speech acts. The three most frequent speech acts through which the commentators communicated their intent in a textual form were assertive, expressive,

and directive. When applied in online communication, specifically one that transpires via social media such as Facebook, an assertive speech act is employed by a user to state a belief regardless of its truth (Banikalef, 2019). Based on the findings, commentators used this speech act to state facts and opinions on COVID-19, specifically about the national vaccination program and statistics of new COVID-19 cases and vaccinated individuals. When such statements were posted on Facebook, especially those which appeared questionable and groundless, it shows that Facebook is also utilised as a medium to spread personal assumptions and rumours.

Social media provide an open platform for Internet users to share news, stories, personal experiences and viewpoints (Zubiaga et al., 2016). It is easier for them to post unverified statements and information, which can be easily spread to others. Facebook users realise expressive speech act to express their psychological states on the online platform (Banikalef, 2019). Through this speech act, this study found that the commentators expressed various positive and negative emotions due to the conflicts caused by COVID-19. Furthermore, Facebook has been utilised to express positive and negative emotions, which is also considered a more appropriate medium to do so compared to other social media such as Twitter and Instagram (Waterloo et al., 2018).

As for the directive speech act, this study found that the advice, commands, suggestions, and requests were addressed to the Malaysian government and fellow citizens. By employing this speech act in their comments, the Facebook commentators seemed to exhibit a certain level of personal knowledge about COVID-19 and its management to the two groups of addressees. Having dealt with the pandemic for over two years, these commentators tried to showcase experience and information about COVID-19 management implemented in the country and other foreign countries. Moreover, Malaysians took precautions even before the movement control order was enforced nationwide (Azlan et al., 2020).

Although the present study only examined the types of speech acts performed in this online genre – Facebook comments in the Malaysian context and did not attempt to investigate the co-occurrence of several types of speech acts in every Facebook comment, the researchers noticed that some of the comments in the corpus did exhibit these characteristics, e.g., Directive – assertive – directive or assertive – directive – expressive. These characteristics were also noted by Carr et al. (2012) in their study of speech acts on Facebook status messages. Hence, this could mean that when people make comments online, they communicate messages that contain not only a meaningless string of words, phrases, or sentences but convey a hybrid of speech acts that can be translated into several functions. As communication via this medium is also asynchronous, as in email communication, Facebook comments are expected to also tend to be embedded with multiple speech acts (Carvalho, 2011), unlike synchronous communication, which involves a series of turn-talking as a result of cooperative achievement between the speakers, thus, leads to a sequence of speech acts (Félix-Brasdefer, 2014).

A further examination of the comments also revealed that they were posted for two recipient groups: the Malaysian government and the Malaysian public. In their comments, the Facebook commentators appeared to blame these two addressees, rather than themselves, if there were any loopholes in the movement control order that caused yet another alarming COVID-19 outbreak in the country. The pandemic, which went on for many years, triggered fear among people, thus, provoking them to ascribe the fault to others (Dionne & Turkmen, 2020). Several studies have documented this issue, which shows that people tend to blame the citizens of other countries, international travellers, foreign refugees, and border trespassers (Bala & Lumayag, 2021; Hardy et al., 2021; Labbé et al., 2022). This practice of blaming is known as ‘othering’

by degrading others, usually people from a marginalised group or out-group (Dionne & Turkmen, 2020). This othering practice can even result in a severe stage of exclusion (Bala & Lumayag, 2021). While the commentators might view themselves as self-disciplined and law-abiding, blaming others in the course of the pandemic also reflects a collective comment and solidarity in fighting against selfless, individualistic people (Labbé et al., 2022). Besides, it also implies that the commentators had formed in their minds their imagined audiences – abstract or target when they posted their comments. Abstract audiences are vague and general, whereas target audiences are specific and directed (Litt & Hargittai, 2016).

This study's detailed perusal of the comments showed that the Facebook commentators did not merely write their comments in a straightforward textual form. Instead, their comments were interwoven with unique characteristics present only in online communication, such as emails and chats, or those often used in face-to-face communication. Incorporating emojis in online communication is not simply the inclusion of graphic symbols in textual messages. They play an important role in this communication, namely to upgrade or downgrade the impact of an illocution (Sampietro, 2019). This is the same as the use of the hashtag in the comments. Although hash-tagged messages are usually used as keywords to help other users search for related messages (Zangerle et al., 2013), our study indicates that some would hashtag their comments for different communicative reasons. These include calls for action, expressions of emotions, and outbursts of profanity. Other styles adopted by the Facebook commentators in writing their comments were abbreviation, orthographic emphasis, repetition, interjection, code-mixing, loanword, and words of profanity – the last five resemble those used in spoken interactions. These micro-linguistic features are typical of the online discourse (Reiter & Bou-Franch, 2017) because expressing one's meaning in text-laden communication using non-verbal communication cues is impossible. The paucity of these cues in online communication has contributed to these distinctive micro-linguistic conventions, which are influenced by various use-related and user-related factors such as communication purpose, writers' intention, sociolinguistic background, language, and script (Bieswanger, 2013).

6. CONCLUSION

The adoption of social media during the pandemic surpassed other sources and platforms, e.g. broadcast and print media, official websites, and family and friends (Mat Dawi et al., 2021). This study has documented the use of language in one social media - Facebook- by examining 555 comments posted in response to the daily reports of COVID-19 cases that occurred in a Malaysian context. Although this study primarily focused on the use of speech acts in these Facebook comments, an extensive analysis of the comments helped us to identify that each speech act carries a very specific function that is reflective of the situation in which the speech acts were performed. This study was conducted on a very small scale related to the COVID-19 pandemic in Malaysia. However, it was found that Facebook comments can represent people's opinions, emotions, and conditions in their reactions to a health pandemic like COVID-19. Using social media during public health crises is considered efficient as it adheres to the "*telling it all and telling it now and telling the truth*" principle, mainly because it concerns the public's well-being and requirement for instant information (Graham et al., 2015, p.7). Thus, it is important that government representatives analyse the public's reactions through their comments to understand the public's demands, customise crisis information and respond to their comments to increase communication with the public and engagement level (Chen et al., 2020). One way to carry this out is by studying the occurrences of speech acts and micro-linguistic features in the comments. Due to the small scope of this study, it is suggested that future research extends the study by increasing the corpus size and conducting a comparative

study by considering social factors (e.g., age, gender, racial group, and socioeconomic) and other factors such as platform differences.

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Introduction and literature review (NHMN); research methodology, data collection and data analysis (NSICH); research findings (NHMN & NSICH); discussion and conclusion (NSICH); formatting (NHMN); final proofreading (NHMN & NSICH).

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

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