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Editorial

Information Management and Business Review (IMBR) provides a digital forum for researchers to share their knowledge and publish research work in the fields of information management, business, management and related disciplines. The work submitted for publication consideration in IMBR should address empirical and theoretical developments in the subjects related to the scope of the journal in particular and allied theories and practices in general. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal and that all listed authors approve its submission to IMBR. It is IMBR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of IMBR comprises papers of scholars from different universities of Malaysia, Indonesia, . Impact of Customer Perceived Value on Customers' Satisfaction, Satisfaction at Family-Style Restaurants, Customer Relationship Management, Determinants of Food Selection among International Travelers, Micro Business Technological Innovation Adoption, Behavioral Insights into Food Waste, Social Media Marketing Factors & Restaurant Customers' Purchase Intentions, Assessing Hotel Guests' Satisfaction, Adults' Repurchase Intentions in Green Restaurants, Local Food Heritage as a Destination Marketing Strategy, Employability Skills for Hospitality Graduates, Food Waste Management Practices, Halal Practices vs Food Heritage, Perceived Value Dimensions and Guest Satisfaction, Financial Stress and Health Outcomes, Inclusive Workplace, Islamic Digital Marketing, Artificial Intelligence Adoption and Young People & Social Media are some of the major practices and concepts examined in these studies. All the submitted papers were first assessed by the journal committee and then the external editorial team for relevance and originality of the work and then blindly peer-reviewed by external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The special issue will, therefore be a unique proposition, where scholars will be able to appreciate the latest results in their field of expertise and to acquire additional knowledge in other relevant fields.

Editor In Chief

Ijaz Ur Rehman Ph.D

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Understanding the Impact of Customer Perceived Value on Hotel Customers' Satisfaction: A Systematic Literature Review

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Abstract: In the rapidly growing and competitive hotel industry, customer satisfaction is vital for ensuring success, and one of the key factors influencing satisfaction is perceived value. This study investigates how customer perceived value (CPV) impacts customer satisfaction within the hotel industry. Recognizing the importance of CPV in crafting memorable interactions, this study adapts the PRISMA method (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to collect and analyze relevant articles through established online databases from 2014 to 2024. Approximately 20 qualifying studies from various academic databases were chosen, offering valuable insight into research on CPV within the hotel industry. The findings highlight the impacts of CPV, such as functional, emotional, and social, that significantly influence customer satisfaction in the hotel industry. Despite limited studies, the findings indicate that CPV can dramatically improve customer experiences and loyalty. Industry practitioners should also design value-driven strategies that enhance functional, emotional, and social value while ensuring competitive advantages. For academic researchers, it proposes further exploration into under-explored areas of CPV within hotel services. By incorporating these insights, scholars and industry professionals may improve overall customer satisfaction in the increasingly competitive hotel industry.

Keywords: *Customer Perceived Value, Functional Value, Emotional Value, Social Value, Customer Satisfaction*

1. Introduction

Customer satisfaction, as referenced by Ying and Al-Khaled (2023), is a sense of pleasure and well-being, representing a psychological and behavioral response to perceived products or services. In marketing and behavioral studies, understanding customer satisfaction is key to fostering loyalty and staying ahead in the hotel industry. One of the primary drivers of guest satisfaction is Customer Perceived Value (CPV), which represents the guest's overall assessment of the value and trade-offs of their stay at the hotel. While CPV has been widely studied in marketing and consumer behavior, its utilization in hotel operations, especially customer satisfaction, remains underexplored (Chen & Chen, 2019).

To date, the hotel industry is facing intense competition, driven by the rise of online travel agencies (OTAs), an increasing variety of alternative accommodations, and the constantly evolving expectations of customers. In this highly competitive environment, understanding how CPV dimensions of functional, emotional, and social value affect customer satisfaction is critical for gaining a competitive edge. As a multifaceted concept, CPV can substantially affect how customers perceive the value of their stay relative to the costs incurred. Functional value, which refers to tangible benefits such as comfort, cleanliness, and amenities, remains an essential driver of customer satisfaction (Bigne & Andreu, 2023). Emotional value focuses on the feelings and experiences that the hotel stay generates, such as relaxation or excitement, which are equally crucial for enhancing customer loyalty (Zeithaml, 1988). Finally, social value, which pertains to the social benefits customers gain, like status and social recognition, has become an increasingly important factor in customers' decision-making processes (Holbrook,1999).

Despite the importance of these three dimensions of CPV, limited research has examined how they interact and contribute to overall customer satisfaction in the hotel industry, particularly in light of the growing influence of digital platforms and alternative accommodations. Understanding how each dimension influences customer satisfaction can guide hotel managers in designing services that meet or exceed customer expectations, fostering long-term customer loyalty, and improving competitive positioning (Zhu & David, 2023). This study seeks to explore the effect of functional, emotional, and social value in enhancing customer satisfaction in the hotel industry. Thus providing insights for hotels to optimize their value propositions.

In this study, understanding the impact of CPV on shaping customer satisfaction is critical for hotel managers. CPV is a dimensional construct encompassing functional value (price, service quality, and amenities), emotional value (feelings of comfort, prestige), and social value (social recognition, community connection).

Despite the significance of CPV roles in improving hotel customer satisfaction, this study seeks to fill the gap by systematically analyzing the literature, identifying trends, and offering insights into industry practices. Moreover, determining the CPV dimensions that most significantly impact customer satisfaction and loyalty may propose actionable strategies for improving service offerings and highlight future research directions, particularly in light of evolving factors shaping CPV and satisfaction in the hotel industry. Therefore, to attain this goal, the researchers segmented the following research questions into three sections for the study:

RQ1: How does functional value impact hotel customers' satisfaction?
RQ2: How does emotional value affect hotel customers' satisfaction?
RQ3: How does social value impact hotel customers' satisfaction?

2. Literature Review

In theory and concept, Babin et al. (1994) classify CPV as having a utilitarian value and a hedonistic value. Utilitarian value is categorized into price value and quality value. Meanwhile, hedonistic value is categorized into self-extension, self-enjoyment, and social value.

This study draws on several established theories to explain how CPV influences customer satisfaction within the hotel industry. These underpinning theories provide a robust framework to analyze the complex relationship between customer perceptions and satisfaction levels.

The Theory of Reasoned Action (TRA) and its extension, The Theory of Planned Behavior (TPB), offer insights into the cognitive processes underlying customer decision-making. These models highlight the importance of attitudes, subjective norms, and perceived behavioral control in influencing customers' behavioral intentions (Ajzen & Fishbein, 1980; Ajzen, 1991). In the hotel context, these elements influence guests' satisfaction and loyalty as they weigh the value they perceive against their expectations.

By integrating these theoretical perspectives, this study emphasizes the significant influence of CPV on customer satisfaction in the hotel industry. Collectively, these models offer a detailed framework to study how customers' value evaluations drive their satisfaction and subsequent behavioral outcomes.

Moreover, CPV is typically divided into several dimensions, each contributing differently to customer satisfaction, including functional, social, and emotional values.

Functional value encompasses practical aspects such as the quality, price, and efficiency of services offered (Gallarza et al.,2019). In the hotel industry, this dimension includes the quality of amenities, the comfort of rooms, and value for money. Evidence suggests that customers who perceive greater functional value are more likely to express satisfaction and return to the hotel (Chen & Chen, 2019).

Emotional value relates to the psychological benefits customers receive from a service, such as feeling pampered or experiencing a sense of prestige (Khan & Rahman, 2022). In the hotel scope, emotional value can be derived from the ambiance, personalized services, and overall atmosphere that create a positive emotional response. This dimension has been linked to higher satisfaction and positive word-of-mouth recommendations.

Social value involves customers' desire for recognition and social interaction, an essential factor in hospitality services (Zhao et al., 2020). This value can be derived from networking opportunities, community building, or the social status of staying at a hotel. Social value plays a vital role in the luxury hotel market.

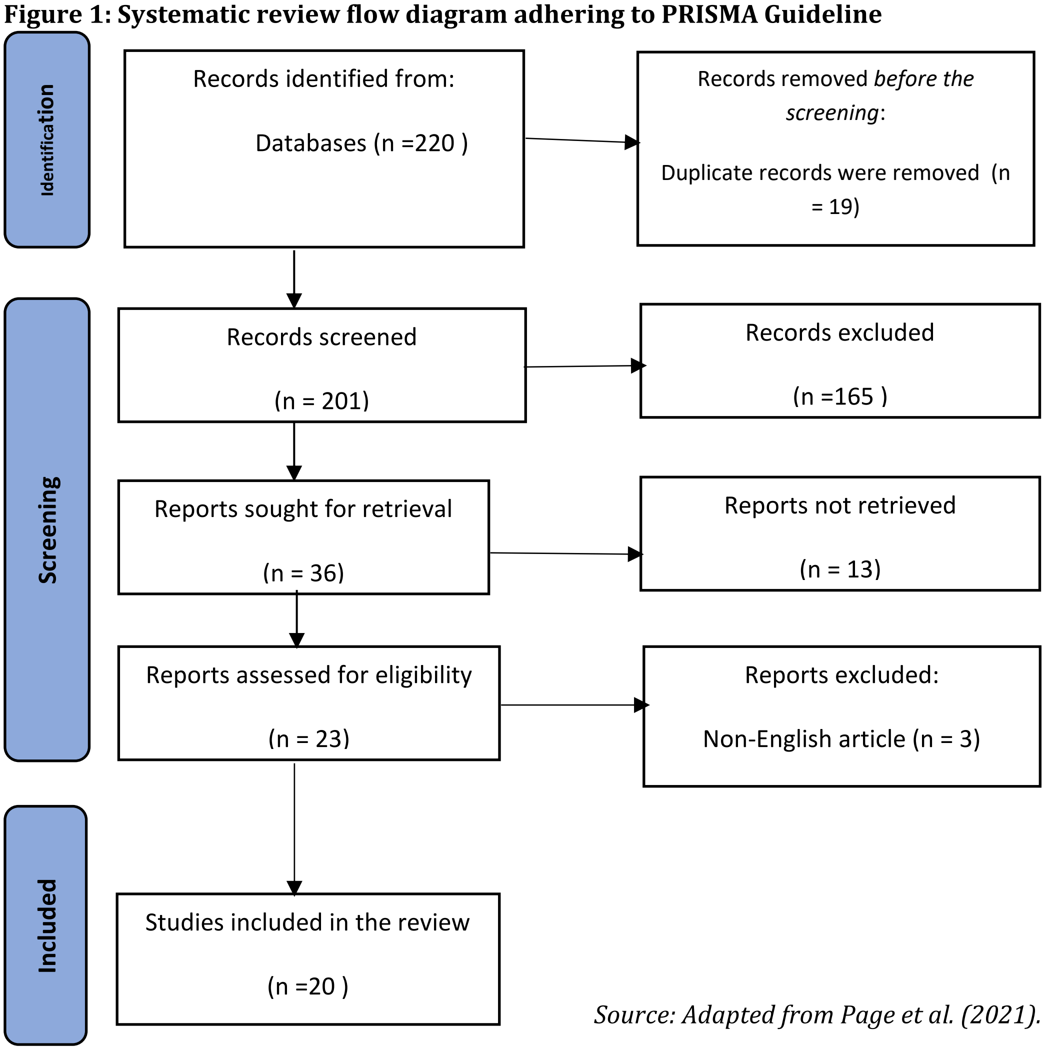
Previous studies have highlighted that CPV strongly influences customer satisfaction, affecting customer loyalty and retention (Wong et al., 2020). In the hotel industry, customers who perceive high value in their experience are likelier to exhibit positive behavior, such as repeat visits, recommendations, and higher ratings. Furthermore, CPV affects customer satisfaction and contributes to a hotel's overall brand image and reputation (Kim & Lee, 2022).

In conclusion, CPV is a multidimensional factor that significantly contributes to customer satisfaction in the hotel industry. By understanding and enhancing the various dimensions of CPV, hotel managers can more effectively tailor their services to meet customer needs, resulting in higher guest satisfaction, loyalty, and competitive advantage. Nevertheless, additional studies are required, particularly concerning the interaction among these dimensions in shaping overall satisfaction and loyalty in the evolving post-pandemic hospitality environment.

3. Methodology

The study adheres to the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines for its methodology (Page et al., 2021). It uses a structured approach, as illustrated in Figure 1, designed to identify, analyze, and synthesize pertinent literature.

Figure 1: Systematic review flow diagram adhering to PRISMA Guideline



Source: Adapted from Page et al. (2021).

This study investigates how CPV influences customer satisfaction in the hotel industry. To ensure the relevance and timeliness of the review, this study included articles published between 2014 and 2024. These ten years were selected to focus on recent advancements and contemporary discussions within the field, aligning with the approach suggested by Grant and Booth (2009), which emphasizes the importance of defining time frames in systematic reviews. By limiting the scope to this period, the review captures the latest developments while excluding older studies that may no longer reflect the current practices or trends. This method provides a solid framework for exploring the research questions while ensuring the results remain pertinent to contemporary issues.

Data Sources and Search Strategies

The researcher conducted a systematic exploration of various electronic databases, including SAGE, Elsevier, Taylor & Francis, and Google Scholar, to address the research objective. A search strategy was meticulously crafted by identifying key concepts pertinent to the research topic. Boolean operators (AND, OR, NOT) were used to refine and broaden the search. This study search string is: (''hotel customer satisfaction'' OR ''guest satisfaction'') AND (''functional value'' OR ''emotional value'' OR ''social value'') AND (''hospitality industry'' OR ''hotel service'').

Selection of Studies: Inclusion and Exclusion Criteria

The study selection process consisted of three stages. The initial stage concentrated on reviewing titles and abstracts for relevance, followed by an in-depth evaluation of how well the articles matched the research topic. In the final round, full-text articles were thoroughly reviewed, and those unrelated to customer perceived value", "customer satisfaction," and "hotel industry" were excluded. Inclusion criteria consisted of articles written in English, published in peer-reviewed journals, accessible in full text, and published between 2014 and 2024; hotel guests, hotel customers, and hotel staff and experts were involved as participants.

Meanwhile, exclusion criteria included unpublished theses, dissertations, book reviews, conference papers, and articles published before 2014 or after December 2024, and additional reasons for exclusion are detailed in the adapted PRISMA flow diagram (Figure 1). This systematic method guaranteed the inclusion of only the most pertinent and high-quality research for analysis.

Table 1: Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Year	From 2014 to 2024	Anything published before 2014
Access	Open access	Close access
Document Type	Full-text article	Book review, conference paper, unpublished thesis and dissertation
Source type	Peer-reviewed journal, Book, conference paper	Book, conference paper
Language Subject	English language	Other than the English language
Participant	Hotel Customers	Other than Hotel Customers

Data Extraction Process and Quality Assessment

Data from the selected studies were systematically documented in an evidence table (see Table 1). The data extraction process focused on gathering crucial details directly linked to the research questions, resulting in a systematic and thorough compilation of pertinent information.

4. Findings

Table 2 presents an in-depth analysis of the 20 articles, structured according to the following dimensions: author, year, study objectives, sample characteristics, methods, and analysis techniques. Additionally, these articles were categorized to highlight the publication trends, the journal distribution, the author contributions, and the tools and techniques utilized in the studies. This comprehensive tabulation was used to synthesize the reviewed literature systematically. Following a full-text review, an additional 13 articles were excluded, leaving 24 articles for inclusion in the final evaluation.

Table 2: Studies on Customer Perceived Value and Customer Satisfaction included in the SLR

Author(s)	Focus	Sample & Method	Analysis	Findings
Nazir, M. et al. (2014)	CRM's impact on CPV and customer loyalty in hotels	Hotel guests and CRM professionals; Survey	Regression analysis	CRM practices increase CPV, enhancing customer loyalty through personalized services
Chen & Hsu (2015).	Factors contributing to CPV in hotel services	Hotel guests; Surveys	Factor analysis and regression analysis	Service quality and customer interaction are key drivers of CPV in the hotel industry.
Monga & Kaplash (2016).	CRM's effect on CPV and hotel performance	Hotel management teams; Case studies	Case study analysis	CRM boosts CPV, improving hotel performance and customer loyalty
Zhang & Luo (2017)	How CPV affects customer loyalty in the hotel industry	Hotel customers, Surveys and interviews	Regression and path analysis	CPV positively influences customer loyalty, mainly through service quality and experience
Dewnarain et al. (2018)	CRM strategies' effectiveness in increasing CPV and customer retention in hotels	Hotel guests; Mixed methods (surveys and interviews)	Quantitative and qualitative analysis	CRM improves CPV, leading to higher customer retention in hotels
Hislop et al. (2018)	Management's role in enhancing CPV through CRM in hotels	Hotel staff and management; Qualitative interviews	Thematic analysis	Knowledge management enhances CPV by personalizing customer experiences
Lai (2018)	CPV framework specific to hospitality	Hotel service providers; Literature review	Conceptual framework development	A comprehensive CPV model for hotels, emphasizing both tangible and intangible benefits
Huang & Chou (2019)	Relationship between customer perceived value (CPV), customer satisfaction, and customer loyalty in the hotel industry	Surveyed hotel customers staying at hotels in Taiwan	Structural Equation Modeling (SEM)	Emotional value was the most significant dimension of CPV in influencing both satisfaction and loyalty.
Kim et al. (2019)	CPV in the luxury hotel segment and its effect on customer satisfaction	Luxury hotel guests; Surveys	Factor analysis and Structural Equation Modeling (SEM)	CPV in luxury hotels is driven by exclusivity, service quality, and personalized experiences
Hollebeek et al.	How service-	357 customers	Partial Least	Service-dominant

(2019)	dominant logic influences CRM and CPV in hotels	from various hospitality services How?	Squares Structural Equation Modeling (PLS-SEM)	logic enhances CPV by fostering value co-creation with customers
Yang & Zhang (2019)	CPV's role in improving customer retention in the hotel sector	Hotel customers: Survey	Regression analysis	CPV is a crucial indicator of customer retention in the hotel industry
Adly et al. (2020)	CPV's role as a mediator between CRM and customer satisfaction/loyalty	Egyptian hotel customers: Quantitative	Structural Equation Modeling (SEM)	CPV mediates CRM's impact on loyalty, improving satisfaction
Wu & Liu (2020)	Impact of service quality on CPV and hotel performance	Hotel guests; Surveys	Structural Equation Modeling (SEM) and factor analysis	Service quality directly impacts CPV and enhances guest satisfaction and loyalty
Hernandez et al. (2021)	How customer value perception drives loyalty in the hotel industry	Hotel customers, Surveys and interviews	Factor Analysis	CPV influences customer satisfaction, which in turn increases loyalty in the hotel industry
Zhang & Luo (2021).	CPV's relationship with customer satisfaction in the hotel industry	Hotel customers; Survey (online)	Structural Equation Modeling (SEM)	CPV strongly correlates with customer satisfaction, driving repeat visits and loyalty
Zakaria (2021)	How CPV influences customer satisfaction in hotels	Secondary data: Qualitative	-	Emotional value impacts satisfaction the most, followed by social and functional values.
Mohammed & Al-Swidi (2023)	CPV's influence on customer loyalty, emphasizing CSR	Hotel customers; Survey data	Structural Equation Modeling (SEM)	CSR enhances CPV and loyalty, with social media playing a key role
Zhang (2023)	12 blind box characteristics, five surprise box CPV, customer satisfaction, and customer loyalty	Customer	In-depth interviews and questionnaires based on customer interaction data	CPV is used to analyze the positive influence on customer satisfaction
Ghorbani et al. (2023)	Dimensions of CPV and major strategies to enhance customer-perceived value in hotel	Interviewed 30 experts in the hotel and hospitality industry	MAXQDA software	Dominant themes included emotional value and social value
Smith et al. (2024)	Relationship between customer perceived value	700 guests at mid-to-luxury hotels across five U.S.	Structural Equation Modeling (SEM)	Functional value and emotional value significantly

	(CPV) and hotel customer satisfaction	cities.		contribute to customer satisfaction.

Strengths and Limitations

This systematic literature review (SLR) was conducted in accordance with PRISMA guidelines to facilitate a thorough and organized search and selection process. By utilizing a broad range of databases, including SAGE, Elsevier, Taylor & Francis, and Google Scholar, the review was able to capture a wide array of relevant studies related to Customer Perceived Value (CPV) and customer satisfaction in the hospitality industry. This method facilitated the inclusion of varied viewpoints and methodologies, providing a thorough insight into the topic.

However, the analysis was restricted to 20 articles, which might not comprehensively reflect the global research environment. This selection of articles might have excluded essential studies published in other journals that have not been covered by the search strategy. Additionally, while the study focused on articles from 2014 to 2024, there could be valuable insights from older studies that were not included, potentially limiting the depth of historical context. Moreover, most studies are cross-sectional, restricting the capacity to identify long-term trends and shifts in CPV and customer satisfaction.

Discussion

This study reveals the significant influence of CPV on shaping customer satisfaction and loyalty within the hotel industry. As illustrated by Gallarza et al. (2019), functional value comprises the tangible benefits of service offerings, such as quality, price, and efficiency. In the context of the hotel industry, functional value includes amenities, room comfort, and the overall value for money. As revealed in the previous study by Chen and Chen (2019), guests who perceive high functional value are more inclined to express satisfaction and make repeat visits, which leads to customer retention. This aligns with the fundamental idea that practical elements of a service—such as a well-maintained room and efficient service—are critical to a guest's overall perception of a hotel.

Following this is emotional value, which significantly impacts customer satisfaction. Khan and Rahman (2022) emphasized that emotional value arises from the psychological benefits customers gain during their stay, such as feeling pampered or experiencing a sense of exclusivity. Hotels that excel in providing a positive emotional environment—through elements like personalized services and a pleasing ambiance—are likely to foster higher levels of customer satisfaction. This holds especially true when the hotel experience triggers strong, positive emotions, resulting in repeat visits and favorable word-of-mouth recommendations. The emotional dimension enhances the guest experience and contributes significantly to customer loyalty.

Furthermore, social value is another key component of CPV, especially in the luxury hotel market. Zhao et al. (2020) argued that customers derive social value from the recognition and social interaction they experience at the hotel. This includes networking chances and prestige associated with staying at high-end properties. This key component is critical in creating an environment that appeals to guests who seek a sense of belonging and the status of interacting with others in exclusive settings.

Previous research has consistently reinforced the relationship between CPV, customer satisfaction, and loyalty. As noted by Wong et al. (2020), when customers perceive high value in their hotel experience, satisfaction is positively influenced, strengthening loyalty and retention. This exhibits favorable behaviors such as returning to the hotel, recommending it to others, and providing positive feedback. Moreover, as Kim and Lee (2022) suggest, CPV affects not only customer satisfaction but also significantly impacts a hotel's brand image and reputation. This insight underscores the importance of hotel operators focusing on all aspects of CPV, as it can directly influence customer loyalty and the brand's overall perception.

In conclusion, the study presents robust evidence that functional, emotional, and social dimensions are essential for customer satisfaction and loyalty in the hotel industry. By focusing on these three dimensions, hotels can strengthen their competitive advantage, increase customer satisfaction, foster lasting loyalty and ultimately achieve a stronger brand image, enduring prosperity in the industry.

5. Conclusion and Recommendations

This study examined 20 published studies between 2014 and 2024 to understand how CPV influences customer satisfaction in the hotel industry by highlighting important themes and trends. The results indicate that CPV is a multidimensional concept encompassing three core values: functional, emotional, and social. Firstly, functional value covering benefits like service quality, reliability, and efficiency was consistently linked to higher satisfaction. Next, emotional value involves positive feelings such as joy, trust, and comfort, often having a more substantial influence, helping build loyalty and lasting relationships. Lastly, social value tied to brand reputation and exclusivity played a role in meeting customers' desires for social recognition and identity. These core elements influence customer experiences and emphasize the value of a comprehensive strategy to enhance satisfaction in the hotel industry.

In addition, the review also identified the challenges, such as cultural differences, price sensitivity, and varying expectations that influence how customers perceive these values. However, there is a gap in studies examining how these values evolve and interact to drive long-term customer satisfaction. Future research should consider including longitudinal studies to assess how changes in service delivery over time influence customer satisfaction and CPV. Broadening the scope to encompass various geographic regions and cultural backgrounds could enhance the understanding of how CPV and customer satisfaction are influenced across various markets.

Another avenue for future studies involves the role of personalization in enhancing emotional value. Research could focus on how tailored services, individualized interactions, and customized experiences strengthen the emotional bonds between customers and brands, boosting satisfaction and loyalty. Given the significant role of social media in modern life, it is necessary to explore its role in forming public attitudes toward social values. Studies can explore how brands can use digital platforms to promote community-building and social recognition. Finally, understanding the interactions between Customer Perceived Value (CPV) dimensions could provide deeper insights. Investigating how functional, emotional, and social values complement or conflict with each other can also help businesses design services that address all three dimensions, maximizing customer satisfaction. By acting on these recommendations, hospitality businesses can refine their customer experience strategies to strengthen functional, emotional, and social values, fostering higher customer satisfaction, retention, and loyalty in a rapidly evolving market.

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Satisfaction of Persons with Physical Disabilities at Family-Style Restaurants in Kuala Terengganu

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Abstract: For people with disabilities (PWDs) to have the best possible dining experiences in restaurants, they require specialized accessibility. Nevertheless, some restaurant owners sometimes overlook this issue when offering suitable amenities for this particular group of patrons. Therefore, this study aims to identify physical key factors influencing individuals with physical disabilities at family-style restaurants in Kuala Terengganu, Malaysia. The physical key variables in this study include the respective space for parking facilities, the building's design, the design of the dining area, and the family-style restaurant restroom specifications. 400 valid replies were analyzed using the Statistical Package for the Social Sciences (SPSS), and the analysis's findings demonstrate the importance of each suggested variable. The data was gathered in Kuala Terengganu using an online questionnaire and some paper surveys, in compliance with the restriction on physical distances. According to this study, the design of buildings, the design of the dining area, and restroom specifications are the three independent factors that impact customer satisfaction. Future academicians and other interested parties can learn more about the topic of this study. Government agencies and food service providers will also benefit from the insights as they plan and operationalize better in the future to increase consumer satisfaction.

Keywords: *Persons with physical disabilities, PWD satisfaction, Restaurant facilities, Accessibility, Family-style restaurants*

1. Introduction

This study investigates the opinion of people with disabilities toward restaurant facilities, with a particular focus on people who face physical limitations. The objective is to examine and determine the factors and the satisfaction level of persons with physical disabilities who dine in at the family-style restaurants about the in-house facilities. The study centers on the availability and arrangement of such service features as parking, entrance, dining areas, restrooms, and overall eating out experience. The objective is to gather their opinions, feelings, and satisfaction levels to explore accommodating and integrating them into the modern restaurant setting. It focuses on how people with disabilities view and react to the quality and accessibility of facilities like parking lots, building entrances, dining spaces, and restrooms. This study intends to uncover key issues and provide insights into solutions for improving accessibility in the food and beverage (F&B) industry by investigating their perceptions and satisfaction levels. It also entails analyzing research-related occurrences to pinpoint certain subjects, study sites, and issues that require solutions. In the food and beverage (F&B) industry, customer satisfaction is pivotal in influencing restaurant sales and reputation (Ahmed et al., 2022). Restaurant amenities are among the many services that contribute to customer happiness. Other than that, researchers also frequently discover that parking, restrooms, dining areas, merchandise, and services at restaurants lead to the happiness of customers who dine in (Castro et al., 2022).

PWDs are defined as those with long-term limitations on their capacity due to physical, sensory, mental, or intellectual problems to fully and effectively participate in society when faced with obstacles (Department of Social Welfare Malaysia, 2023). PWDs, however, are entitled to the same access to all facilities as everyone else (Awang et al., 2021). People with disabilities (PWDs) can now easily share their dining experiences, thanks to social media and online review platforms. The reputation of a restaurant can be greatly enhanced by a single, favorable review that emphasizes inclusivity and accessibility (Aureliano-Silva et al., 2021). High ratings for accessible facilities can also help a restaurant keep its positive reputation and draw in returning customers, particularly loyal PWD customers who appreciate such amenities, as noted by Uslu & Eren (2020).

Reindrawati et al. (2022), as referenced by Perdana (2020), identified two key factors: social awareness and Ghasemi, Oliveira & Kuhzady (2022), "Marketing Mix Analysis for Dote Restaurants in Portugal". International

Case Studies in Tourism Marketing, 218.The quality of physical amenities and infrastructure as measures of accessibility for people with disabilities in Malioboro, Yogyakarta. However, this assessment prioritized physical infrastructure while paying little attention to the actual experiences of individuals with impairments as guests. Similarly, Sawangsuk (2017), cited in Choibamroong and Angkananon (2022), emphasized that tourism management for visitors with physical impairments should include designated services, such as dining and activity areas, tailored to their needs.

Less accessibility in restaurants makes life difficult for those with disabilities (Gillovic & McIntosh, 2020). This issue includes physical barriers that make it difficult for people using wheelchairs to enter or navigate restaurants, such as stairs or narrow entrances (Castro et al., 2022). Bakar et al. (2020), referenced by Mu and Kang (2023), stated that while senior citizens in senior living communities may also desire a dining-in atmosphere, they will place a higher value on stability at the table than on flexibility. This comment demonstrates that older diners want comfort when dining out, which supports the necessity (need) for restaurants to accommodate physically challenged patrons. They too, like any other non-disabled individuals, want to have an enjoyable meal with their family. Persons with Disabilities (PWD) are individuals with physical, mental, or sensory impairments, and accessibility in restaurants plays a critical role in enabling their participation in social dining experiences. Addressing these accessibility issues is essential to ensure inclusivity and equality in dining environments.

To sum up, this study is aimed at finding out the factors affecting people with physical disabilities (PWDs) when they want to eat in a family-style restaurant, focusing especially on the in-house facilities that are available. In addition, this study aimed to measure the satisfaction of PWDs about the existing facilities. Accessibility is a crucial issue for PWDs because the poor infrastructure and no public awareness of the requirements they have create numerous barriers to their dining experiences. Many restaurants are inclined to overlook important facilities such as special parking spaces, building design, dining area design, and restroom specification, which are all very important to PWDs to have everything working properly. Further studying these variables, the research calls out the missing parts in the restaurant access for PWDs and binds the places that will help in improvement. The main goal is not only the research of the factors that have an impact on their choice of dining, but the creation of bearable suggestions for family-style restaurants to be able to serve this underprivileged group in a better way. The discoveries are planned to stimulate restaurant owners and policy makers to bring accessibility to the first place, thus creating an accessible food space that will make PWDs comfortable and satisfied.

2. Literature Review

This study examined two basic and specialized knowledge about the restaurant business, patron happiness, and accessible dining options for people with disabilities. Apart from that, it includes the features of the restaurant that increase patron happiness, including the dining space, parking, walkways, restrooms, and payment stations. The accessibility of restaurants for those with physical disabilities is another topic covered in this research, both locally and globally.

Restaurant Industry: Globally speaking, there are aspects of restaurant facilities that are well-liked in all nations and civilizations. For patrons to enjoy their dining experience, comfortable seating options are a basic requirement for any restaurant. Restaurants should follow proper cleanliness protocols to protect the health and safety of their customers (Maemunah, 2021). In the food service sector, providing high-quality services that boost client happiness is crucial. Based on staff, resources, and facilities, researchers can provide the service with customer satisfaction (Nguyen et al., 2018). Khan et al. (2013), referenced in Nguyen et al. (2018), stated that seven factors, such as the physical environment, service quality, brand, customer expectations, promotion, price, and food taste, can be used to assess customer happiness. According to Uslu and Eren (2020), a pleasing physical environment consists of components such as remodeled interior design and décor, music, lighting, color scheme, nice aroma, pleasant table arrangement, roomy layout, and appealing service staff.

Family-Style Restaurants: Razak et al. (2023) reference the National Restaurant Association (2014) as defining a family-style restaurant as a casual dining space where customers are seated at tables and attended to by wait staff. Customers can dine at a table in a family-style restaurant and take advantage of the relaxed ambiance while being served by wait staff. However, this is not the situation with fast-food restaurants, where customers place counter orders for meals to go (Razak et al., 2023). Tan (2014) found that around 36% of Malaysian citizens eat at home, whereas 64% of people go out no less than once a day and 12.5% have bought at least one meal out from home, as reported by Rashid et al. (2019) In a report by Rashid et al. (2019), Tan (2014) found that 36% of Malaysian citizens eat at home, whereas 64% of people eat out no less than once a day and 12.5% have ordered takeout at least once. Razak et al. (2023) cite Othman and Kandasamy (2018) and Rashid et al. (2019) as saying that family-style restaurants are well-liked by Malaysians and offer full-service dining with a selection of food and beverage options. Mamak restaurant is one of the most well-liked options. Apart from that, a coffee shop-style restaurant changed into a family restaurant. There are even more family-owned, independent eateries in this group. They are usually found nearby or conveniently accessible from suburbs and roads. A few serve wine and beer, but most do not offer alcoholic drinks. These are family-friendly, informal restaurants with a simple menu and service (Walker, 2022).

Persons with Physical Disabilities: According to Gordon and Tavera-Salyutov (2018), PWDs have historically experienced four main stages: social exclusion and neglect, separation, integration, and complete socio-political inclusion. Despite this, PWDs continue to face challenging circumstances even after ten years. Due to their mobility issues, some disabled people are restricted from interacting with the outside world, which limits their opportunities for social interaction, employment, and other everyday activities (Hwang, 2022). The World Health Organization (2023) estimates that there are 1.3 billion people worldwide, or 16% of the total population, who live with disabilities. These individuals may be impacted by a variety of factors, including age, gender, sexual orientation, religion, race, ethnicity, and financial status. The Department of Social Welfare Malaysia (2023) reports that, as of January 31, 2023, around 637,537 persons had been registered as disabled. The number of disability cases has been rising annually. Malaysians with disabilities are seldom seen in public places because of their limited knowledge about physical activity and other forms of involvement.

Family-Style Restaurant Facilities for PWDs: The furnishings, equipment, and physical area needed to run a restaurant are referred to as restaurant facilities. These kinds of facilities are designed to be able to host visitors, facilitate the preparation and serving of meals, and offer a comfortable and useful environment for patrons. PWDs are significant individuals with the same rights as everyone else, but, while having the legal right to do so, they are less able than the general population to participate in social activities regularly (Joo & Cho, 2012). Van Naarden Braun et al. (2006), referenced in Cheng (2020), reported that earlier studies claimed PWDs had the right to have the capacity for adjustment needed to engage in regular social interactions, such as going out to eat or engaging in leisure activities. Malaysia measures and assesses public facilities such as parking lots, paths for pedestrians, bus as well as taxi stops, ramps, guiding blocks, curb cuts, main entrances, entryways, and hallways, corridors and interior pathways, information counters, stairways, lifts, escalators, prayer rooms and ablution areas, general building signage, availability of restrooms according to the 17 public facilities in the evaluated case studies (Bashiti & Asiah, 2016).

PWD Satisfaction: Walter et al. (2010), referenced in De Faria et al. (2012), emphasize that both tangible and intangible factors of the dining experience are closely linked to how consumers evaluate a restaurant as a whole. Similarly, Jani and Han (2011), referenced in De Faria et al. (2012), highlight that the quality of service interactions directly affects customer satisfaction in dining establishments. In a study on ethnic restaurants, Jang et al. (2011), referenced in De Faria et al. (2012), identified menu presentation, furnishings, and music as key contributors to generating positive emotions among consumers. Facilities such as accessible restrooms, ramps, parking, dining furniture, and clear signage are tangible elements that directly impact the satisfaction of PWDs. According to Bae et al. (2018), the studies found that as individuals perceived higher quality in restaurant attributes, their satisfaction levels increased, leading to a greater likelihood of returning to the restaurant. Therefore, restaurants need to monitor customer satisfaction by evaluating the perceived quality of key attributes.

Special Space of Parking Facilities: Cheng (2020) reports that the majority of visitors were dissatisfied with the parking spaces reserved for those with disabilities at tourist destinations–because the parking lot lacks signage that identifies it is accessible to individuals with disabilities or that removes obstacles. Parking lots can be classified as public spaces since they are situated in open spaces and are utilized by different people, according to Aini et al. (2019). PWDs can also have difficulty accessing parking in Malaysia, and when designing a parking lot, it is important to consider the many types of disabilities that each person may have (Najhan et al., 2022). Due to the current and traditional Malaysian parking system's design for standard-sized parking lots, limited parking spaces are being wasted (Ata et al., 2019). As mentioned by Ishak et al. (2021), Lee et al. (2017) claimed that customers who wish to dine there may find it challenging to find a parking spot due to the high traffic volume at specific buildings. The traffic level in business centre locations might make it difficult for people, especially those with disabilities, to obtain parking spots. They also said that availability, accessibility, sufficient traffic volume, and visibility are significant factors in restaurant parking sites.

Design of Building: Rahate et al. (2022) conducted a study in India and stated that it is crucial to ensure that a staircase's layout is appropriately planned by the circumstances, such as those found in offices, institutions, and businesses. Cheng (2020) suggested that relative restaurant owners might be able to create a space—including pedestrian walks—that meets the standards of a barrier-free environment while still staying within their tight budget. Most buildings in Malaysia include moving walkways and ramps, which could make it simpler for people with impairments to move around the building. However, ramps and moving walkways are usually found mainly in large public spaces (Kamarudin et al., 2014). Berezina et al. (2012) expressed various perspectives, as cited by Zakaria et al. (2019), about the significance of lodging quality and customer satisfaction in influencing a customer's decision to stay in a specific location and foster customer loyalty.

Design of Dining Area: Castro et al. (2022) stated that while restaurant facilities in Bulacan have been evaluated favorably for their accessibility, there is still room for improvement if they can make their establishments wheelchair-friendly by providing physically disabled patrons with more space to dine in and move about freely. Aside from that, their research suggested that restaurants should also install sound dampeners since they regulate and lower noise levels in the eating area, facilitating successful communication between people with speech impairments and others (Ghasemi et al., 2022, as quoted in Castro et al., 2022). Dining out in restaurants is something that people with disabilities need or desire to do. Prior research has demonstrated that people with disabilities (PWDs) possess the entitlement to obtain the necessary adapted skills to routinely participate in social activities, such as going out to eat or leisure activities. This right has been recognized as a critical component in the need for communities to enhance their quality of life (Badia et al., 2011; Braun et al., 2006, as cited in Cheng, 2020). However, not every restaurant offers a comfortable dining space for those with disabilities. According to research from Universiti Malaya in Kuala Lumpur, Malaysia, when it comes to the category of barrier-free facilities, the cafeteria earned the lowest mean score (Osman et al., 2015). This finding shows that Malaysians are still partially dissatisfied with barrier-free restaurant facilities.

Restroom Specifications: Disability-friendly washrooms or toilets that are readily available and easily accessible are typically considered one of the reasonable accommodations assessed towards PWDs in New Zealand (D'Souza & Kuntz, 2021). However, even PWDs are not well-informed about their rights or how to take care of their needs for access to sanitation (Daniel et al., 2023). Furthermore, in Thailand, people with physical impairments often find it challenging to use restrooms appropriately and in compliance with their anthropometric restrictions due to poorly built and unwelcoming restrooms (Mamee & Sahachaisaeree, 2010). Every standard restroom should have at least one accessible restroom for the elderly and disabled, according to the ASEAN Public Toilet Standard (The ASEAN Secretariat, 2016). Wider restroom doors and handrails near the restrooms are necessary for wheelchair accessibility. Every restroom facility's entry should include a notice for people with disabilities and a sign particular to each gender that is easily visible in the main corridors. Cheng (2020) did research in Taiwan, and the study participants indicated unhappiness with the slickness of the floor materials and the accessibility of the restaurant facilities. A floor with a slip-resistant surface design would be safer and preferred since some people with disabilities need wheelchairs or crutches to get about. Better accessible restrooms would also make it easier for individuals with disabilities to use the facilities independently and make them feel more comfortable. This issue demonstrates the necessity for safer PWD restrooms without barriers at dining establishments.

3. Methodology

Research Design: The researchers used a quantitative method for the study. This objective reality needs to be broken down into manageable pieces that make up the research objectives or hypothesis to be understood for the paper. The correlations among the variables in the objectives allow the researchers to generate data or test hypotheses through a range of data-gathering techniques (Asenahabi, 2019). The researchers employed primary research and an exploratory strategy for this study. Focus groups, interviews, observations, and surveys are more common in primary research. To collect the data, the researchers employed a survey approach. Through surveys, researchers who were less competent in understanding the subject or gathering data were able to learn from specialists or targeted individuals. In this study, the researchers used primary research (exploratory approach) to get insights directly from the target population. In all the other approaches for primary research methods, focus groups, interviews, and observations, the researchers adopted the multiple-choice questionnaire-based survey as the primary means of data collection. This choice facilitated the incorporation of quantitative data from a high sample size of participants but kept an eye on the research goals. The survey was performed by applying the structured questionnaires to collect data on important variables such as perceptions of the quality of physical infrastructures, of which the variables included parking facilities, entrance ways, dining areas, and restrooms. Other than that, respondents were also asked to rate their overall dining experiences based on the quality of in-house facilities to capture their satisfaction levels of the restaurant's facilities.

The Population and Sample: 31,759 persons with disabilities live in Terengganu, Malaysia (The Department of Social Welfare Malaysia, 2023). The population included in the sample, assuming intellectual disability was not considered, was around 15,810, and the researchers' focus was on physical disorders related to mobility, oral, visual, auditory, and other areas aside from intelligence. In 2024, the population of individuals with disabilities in Kuala Terengganu, Malaysia, was approximately 15,810. According to the Krejcie and Morgan table, the researchers needed to collect 375 samples from this population. However, they successfully distributed the sample to 400 participants, of whom had disabilities. The sample's requirements were derived from research prioritizing physical disabilities like hearing, vision, and mobility problems. They received the sample by simple random distribution. Both online and offline methods, such as paper questionnaires and Google Forms, were used to conduct the survey. In Kuala Terengganu, the researchers disseminated this questionnaire to officially recognized associations for the disabled, such as Community-Based Rehabilitation (CBR) and Program Pemulihan Komuniti (PDK). Even though the samples were split up into a range of age and gender groups at random, the study was limited to those with physical disabilities. Since some PWDs had trouble completing the questionnaire, the researchers permitted family members or PDK staff to complete the survey on their behalf.

Instrument Development and Testing: Several questions were chosen after a careful analysis of the study's goals and pertinent literature. The five SERVQUAL dimensions—tangibles, dependability, certainty, responsiveness, and empathy—were used. In this study, Tangibles (which encompass the physical facilities, equipment, and overall appearance) include elements such as accessible dining areas and restrooms. Reliability, on the other hand, measures the consistency and accuracy of delivering promised services; it ensures that amenities for Persons with Disabilities (PWDs) are always available and functional. Assurance pertains to the knowledge, professionalism, and courtesy exhibited by staff because it fosters trust and confidence among PWD patrons. Responsiveness underlines the willingness to address customer needs promptly, however, this includes accommodating special requests or providing necessary assistance. Lastly, Empathy concentrates on offering personalized care and understanding the unique needs of PWDs, ensuring that they feel valued and included. Although these dimensions are distinct, together they assess how well restaurants cater to accessibility and satisfaction for PWDs. The questionnaire's questions were taken from Cho's (2012) "Study on the Utilization of Restaurant Services by the Disabled and their Demand for Better Access in Korea," which concentrated on this topic. This questionnaire was also created using instructions from Cheng's (2020) study, "The Satisfaction Study of People with Disabilities Regarding the Restaurant with Barrier-Free Environment in Taiwan Tourism Area." Six components made up the questionnaire used in this investigation. The participants' gender, age, degree of education, and forms of disability were among the demographic data collected in the first segment. The evaluation of the participants' experiences with the internal restaurant amenities was the main objective of the following four questionnaire parts. These sections addressed many facets of the on-site amenities, including designated parking areas, building layouts, dining area designs, and restroom specifications. Lastly, client satisfaction was covered in the final portion of the questionnaire. Participants were asked to rate their overall satisfaction with their restaurant dining experience.

Data Collection Procedure: There are more than 9,000 registered disabled people in Kuala Terengganu, Malaysia. As there is a considerable population of registered disabled people, the city was selected as a research site. Surveys were one of the approaches that the researchers employed in this study's data collection methodology because surveys contain no interviewer bias, are anonymous, and are less expensive. 375 people with physical, visual, and auditory disabilities made up the target respondents. In addition, the researchers identified a Disabled Persons Association in Terengganu as a key site for distributing the survey face-to-face with respondents using the prepared questionnaires. The survey was designed to be accessible in both online and paper formats, which this strategy aimed to maximize participation, particularly because some participants encountered mobility issues. Online surveys were distributed through email and social media platforms. However, paper surveys were handed out at strategic locations that were frequently visited by PWDs, such as the Disabled Persons Association, community centers, and rehabilitation facilities in Kuala Terengganu. Throughout their visits, the researchers engaged in casual conversations with respondents to gather recommendations for additional strategic locations where the survey could be distributed. Through these interactions, the researchers identified other relevant venues, thereby expanding their reach to a broader audience. To improve the survey's accessibility, the researchers collaborated with Malaysia's Department of Social Welfare to ensure that the online survey was available to registered disabled individuals. Participants were provided with a pre-tested, structured series of questions in both formats, and assistance was offered by either the researchers or their legal guardians to help complete the survey.

4. Findings and Results

The findings from this section will conclude whether there is a relationship between the special space of parking facilities, design of the building, design of dining area, and restroom specifications toward PWD satisfaction.

Descriptive Analysis: Based on a five-point Likert scale, the descriptive analysis provides the means and standard deviations for every item in every category. This section includes respondents' demographics, parking, facility design, dining area, restroom specifications, and overall satisfaction from people with physical limitations.

Table 1: Analysis of Respondents' Demographics

Variable	Categories	Frequency (N)	Percent (%)
Gender	Male	184	46.0
	Female	216	54.0
Age	15-19 years old	14	3.5
	20-25 years old	39	9.8
	26-30 years old	68	17.0
	31-35 years old	67	16.8
	36-40 years old	55	13.8
	41-45 years old	48	12.0
	46-50 years old	42	10.5
	51-55 years old	7	1.8
	56-60 years old	42	10.5
	Above 61 years old	18	4.5
Race	Malay	397	99.3
	Chinese	3	0.8
Education	SPM or equivalent	328	82.0
	Diploma	34	8.5
	Undergraduate/Postgraduate Degree	17	4.3
	Master's Degree	21	5.3
Occupation	Government Sector	27	6.8
	Non-government Sector	84	21.0
	Self-employed	162	40.5
	Pensioner	22	5.5
	Student	34	8.5

	Unemployed	71	17.8
What type of disability do you have?	Physical	250	62.5
	Visual	61	15.3
	Multiple	89	22.3
Frequency of visiting family-style restaurants in Kuala Terengganu per month.	Once	33	8.3
	2-3 times	181	45.3
	4-5 times	132	33.0
	More than 5 times	54	13.5
Select the name of the restaurant you have visited in Kuala Terengganu.	Warung Pok Nong (Ikan Celup Tepung -ICT)	12	3.0
	Nasi Dagang Atas Tol	71	17.8
	Restoran Mat Binjai	4	1.0
	Restoran Lempeng Rusila	4	1.0
	KBB Burger & Steak Terengganu	7	1.8
	Suerasa Nasi Kerabu	1	0.3
	KD Fried Chicken	53	13.3
	Air Buah Gelas Besar Terengganu	60	15.0
	Kedai Kuih Gong Kapas	9	2.3
	NR Café	32	8.0
	Restoran Plan A	24	6.0
	Mok Ngoh Nasi Dagang	1	0.3
	Singgang Budu	51	12.8
	Kak Pah Nasi Dagang	37	9.3
	Fauzi Nasi Kerabu	7	1.8
	Oliva Café	4	1.0
	Seafood Kuala Ibai Bawah Jambatan	1	0.3
	Star Anise Café	1	0.3
	Gossip Kitchen	2	0.5
	The Syrup VS Soda	1	0.3
	Haji Pok Long ICT	1	0.3
	Nasi Kerabu Warisan Nusantara	4	1.0
	D'Tunggal Seafood	3	0.8
	D'Ganu Cafe Steamboat	4	1.0
	Restoran Asia Signature	6	1.5
Visiting intention	Leisure	398	99.5
	Business	2	0.5

Table 2: Mean Score for Independent Variables (Special Space for Parking Facilities)

No.	Survey Items	N	Mean	Std. Deviation
1	Availability of parking spaces for disabled individuals in the restaurant area.	400	2.6875	0.97838
2	Level of safety you feel in the parking lot regarding the space between cars and any potential hazards.	400	2.9425	0.84911
3	Ease of navigating the ramp with a mobility device (e.g., wheelchair, walker, or cane) in restaurant parking.	400	2.6950	0.85076
4	Designated space of parking area including clear signage and proper marking.	400	2.6350	0.87961

Note: 1: Strongly Dissatisfied, 2: Dissatisfied, 3: Neutral, 4: Satisfied, 5: Strongly Satisfied (Likert Scale)

The results showed that respondents were satisfied with the safety of parking facilities, particularly the spacing between vehicles and the mitigation of potential risks, as indicated by the highest mean score of 2.9425. However, there was a neutral response regarding the ease of ramp navigation for mobility devices (mean score of 2.6950) and the adequacy of designated parking spaces, including proper markings and clear signage (mean score of 2.6350).

Table 3: Mean Score for Independent Variable (Design of Building)

No.	Survey Items	N	Mean	Std. Deviation
1	Main entrance's width in terms of accessibility for individuals with disabilities.	400	3.5275	0.74541
2	Clear and easy-to-see signage on the path inside the restaurant.	400	3.2400	0.79937
3	Main entrance slope and guardrail along the path to the restaurant.	400	3.2925	0.81462
4	Floors with non-slip surface design and tactile warning surfaces (visually impaired paths).	400	3.1275	0.73320

Note: 1: Strongly Dissatisfied, 2: Dissatisfied, 3: Neutral, 4: Satisfied, 5: Strongly Satisfied (Likert Scale)

The findings revealed that respondents were generally satisfied with the accessibility at the main entrance for individuals with impairments, as evidenced by the highest mean score of 3.5275. However, there was neutrality identified regarding the tactile warning features, non-slip surface design (mean score of 3.2400), and the readability and visibility of signage along the restaurant's path (mean score of 3.1275).

Table 4: Mean score for Independent Variable (Design of Dining Area)

No.	Survey Items	N	Mean	Std. Deviation
1	Slippery floor material.	400	3.4900	0.63711
2	The width between tables of the dining room.	400	3.5350	0.71418
3	The height of the tables in the dining room.	400	3.5750	0.70043
4	The height of the chairs in the dining room.	400	3.5550	0.67313

Note: 1: Strongly Dissatisfied, 2: Dissatisfied, 3: Neutral, 4: Satisfied, 5: Strongly Satisfied (Likert Scale)

The results indicate a rather general satisfaction with the dining area's design in family-style restaurants. The highest mean score of 3.5750 highlights satisfaction with the height of the tables, while the second-highest mean score of 3.5550 reflects positive feedback on the height of the chairs. Additionally, the mean score of 3.4900 suggests contentment with the smooth flooring in the dining area.

Table 5: Mean Score for Independent Variable (Restroom Specifications)

No.	Survey Items	N	Mean	Std. Deviation
1	Availability of specific toilets for the disabled with visible toilet signage.	400	2.5425	0.98520
2	Spacious toilet with wheelchair accessibility.	400	2.8300	0.94516
3	Installed and reachable handrail.	400	2.4100	0.94823
4	Adequate height of washbasin.	400	2.9900	0.81027

Note: 1: Strongly Dissatisfied, 2: Dissatisfied, 3: Neutral, 4: Satisfied, 5: Strongly Satisfied (Likert Scale)

The results highlight mixed perspectives on restroom facilities in family-style restaurants. While the highest mean score of 2.9900 reflects some satisfaction with the proper height of the washbasin, the second-highest mean of 2.8300 indicates neutrality towards the spaciousness and wheelchair accessibility of the toilets. However, lower mean scores for installed railings (2.4100) and designated toilets for disabled people with clear signage (2.5425) reveal dissatisfaction with key accessibility features.

Table 6: Mean score for Dependent Variable (Persons with Physical Disabilities Satisfaction)

No.	Survey Items	N	Mean	Std. Deviation
1	How satisfied are you with the facilities provided specifically for guests with disabilities at the restaurant?	400	2.8700	0.76128
2	Overall, are the facilities provided for people with disabilities in restaurants at Terengganu safe and user-friendly?	400	3.0675	0.74789
3	Overall, how satisfied are you with your dining experience at the restaurant?	400	3.3825	0.78277

Note: 1: Strongly Dissatisfied, 2: Dissatisfied, 3: Neutral, 4: Satisfied, 5: Strongly Satisfied (Likert Scale)

The results indicated that respondents had a neutral overall satisfaction with their dining experience in family-style restaurants, as reflected by the highest mean score of 3.3825. The second-highest score of 3.0675 suggests uncertainty regarding the safety and usability of facilities for people with disabilities. The lowest mean score of 2.8700 highlights neutral opinions about the amenities provided for customers with disabilities.

Correlation Analysis: The linear association between the independent and dependent variables was examined using the Pearson Correlation Coefficient. Both positive and negative impacts are feasible for this linear relationship.

Table 8: Pearson Correlation Matrix between Variables

		Special Space of Parking Facilities	Design of Building	Design of Dining Area	Restroom Specifications
Persons With Physical Disabilities Satisfaction (DV)	**Pearson Correlation**	0.427**	0.427**	0.338**	0.619**
	Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001
	N	400	400	400	400

The findings indicated that the facilities of family-style restaurants significantly influence the dining satisfaction of individuals with physical disabilities. Pearson correlation analysis revealed a moderate positive relationship between parking facilities, building design, and customer satisfaction ($r = 0.427$, $p < 0.05$). A weak positive relationship was found between dining area design and satisfaction ($r = 0.338$, $p < 0.05$). Restroom specifications showed the strongest positive correlation with satisfaction ($r = 0.619$, $p < 0.05$). These results support the study's hypotheses, confirming that the in-house facilities significantly impact the satisfaction levels of persons with physical disabilities dining in family-style restaurants, as shown in Table 11.

Regression Analysis: A regression analysis was performed to assess the connection between accessibility features such as parking facilities, building design, dining area design, and restroom design and the overall satisfaction of persons with disabilities (PWDs).

Table 9: ANOVA[a]

	Sum of Squares	df	Mean Square	F	Sig.
Regression	80.704	4	20.176	92.110	<0.001[b]
Residual	86.522	395	0.219		
Total	167.227	399			

a. Dependent Variable: Persons with Physical Disabilities Satisfaction
b. Predictors: (Constant): Special Space of Parking Facilities, Design of Building, Design of Dining Area, Restroom Specifications

Table 10: Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	0.405	0.176		2.302	0.022
Special Space of Parking Facilities	0.072	0.044	0.079	1.626	0.105
Design of Building	0.105	0.050	0.097	2.118	0.035
Design of Dining Area	0.287	0.046	0.259	6.302	<0.001
Restroom Specifications	0.424	0.038	0.516	11.224	<0.001

Dependent Variable: Persons with Physical Disabilities

The coefficients revealed that design of Building (B = 0.105, β = 0.097, t =2.118, p <0.035), design of dining area (B = 0.287, β =0.259, t = 6.302, p <0.001) and restroom specifications (B = 0.424, β = 0.516, t = 11.224, p <0.001) were significant predictors of satisfaction. However, parking facilities (B = 0.072, β = 0.079, t = 1.626, p >0.105) were not statistically significant. These findings emphasize the significance of particular accessibility features in enhancing the dining experiences of persons with disabilities (PWDs). These results support the study's hypotheses, confirming that the satisfaction level of persons with physical disabilities who dine in at family-style restaurants is significantly influenced by the in-house facilities, as shown in Table 11.

Table 11: Hypothesis and Decision

Hypothesis	Decision
H_1: There is a significant relationship between factors that influence dining in at restaurants and persons with physical disabilities' satisfaction in restaurants.	Accepted
H_2: The satisfaction level of persons with physical disabilities who dine in at family-style restaurants is significantly influenced by the in-house facilities.	Accepted

Discussion

The findings highlight the importance of accessible and inclusive facilities in family-style restaurants for persons with disabilities (PWDs), examining key aspects such as parking, dining spaces, and restroom facilities. Respondents expressed general satisfaction with parking safety, aligning with Castro et al. (2022), who noted that adherence to basic parking criteria often meets PWD expectations. While respondents were generally satisfied with parking safety, concerns about ramp accessibility, layout, and design emerged as potential improvement areas. Dining areas received favorable feedback, with many facilities adhering to PWD norms, consistent with Bakar et al. (2020), who highlighted the importance of stable and comfortable dining arrangements for patrons with physical limitations. However, mixed feelings about elements like signage, railings, and floor surfaces suggested scope for refinement. Restroom facilities presented the most dissatisfaction, with issues related to washbasin height, toilet space, accessible railings and signage needing urgent attention. The study's correlation analysis found positive but varying relationships between customer satisfaction and different facility categories, with restroom facilities showing the strongest link. It also revealed gaps in PWDs' awareness of their rights and available resources, underscoring the need for targeted education and stakeholder collaboration to improve accessibility standards. Practical recommendations include enhancing educational signage, expanding accessible features, and focusing on guardrails, entrance slopes, and restroom amenities.

5. Conclusion and Recommendations

This study offers a comprehensive picture of the satisfaction levels of individuals with disabilities in family-style restaurants in answer to the primary research question. Positive aspects like satisfaction with parking safety and friendly restaurants are counterbalanced by barriers like ramp accessibility, pathway compatibility, and the necessity for restrooms. The variance in overall satisfaction amongst institutions for those with physical limitations underscores the complexity of customer expectations about the dining experience. Descriptive, correlation, and regression analysis were used in a comprehensive review as part of the study approach, along with limited identification in the literature base and approval for data collection. Future work proposals include taking the study abroad or to other locations and conducting a more thorough examination of certain factors affecting satisfaction. This study advances knowledge in the field by providing quantitative insights into the relationships between various facilities and customer satisfaction. Although limited by challenges such as small sample sizes, lack of prior research, and data collection hurdles, the study provides a foundation for further exploration. Future research should consider expanding geographically, incorporating diverse research methodologies, and addressing cultural differences to deepen understanding and improve accessibility in dining environments. By prioritizing these insights, restaurants can better meet PWDs' expectations, fostering a more inclusive dining experience. Nevertheless, despite these drawbacks, the study offers practitioners, decision-makers, and researchers insightful information. Ultimately, the study highlights the continuous need to increase accessibility and satisfaction and provides a foundational tool for understanding and enhancing the family-style restaurant dining experience for people with impairments.

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The Elements of Customer Relationship Management and Their Impact on Customer Satisfaction: A Study of Five-Star Hotels in Malaysia

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Abstract: Customer satisfaction is a crucial factor for the success of any business. One of the most significant challenges within the hospitality industry is identifying effective strategies to satisfy and retain customers. The purpose of this study was to examine the relationship between key elements of customer relationship management (CRM)—specifically quality of service, access to service, and service features—and their impact on customer satisfaction at five-star hotels in Malaysia. The study aimed to determine the extent to which CRM enhances overall customer satisfaction. Employing a quantitative research design, data were collected through structured questionnaires from 384 local guests who had stayed at five-star hotels in Malaysia. The results reveal a significant positive correlation between the identified CRM elements and customer satisfaction. Notably, quality of service emerged as the most influential element, followed by access to services and the availability of service features. These findings underscore the critical importance of delivering high-quality service, ensuring seamless access to amenities, and providing comprehensive service features to enhance customer satisfaction. The study highlights the importance of implementing effective CRM strategies at five-star hotels to foster customer loyalty and maintain a competitive edge in Malaysia's dynamic hospitality sector.

Keywords: *Customer Relationship, Customer Satisfaction, Quality of Service, Access to Services, Service Features*

1. Introduction

In recent years, customer relationship management (CRM) has become increasingly well-known. CRM is gathering and evaluating customer data to gain a deeper understanding of their requirements and preferences and then applying that knowledge to customise sales and marketing strategies for customers. It is believed that the key objectives of CRM are increasing profitability, revenues, and customer satisfaction, which will eventually spur sales growth. However, defining CRM is challenging due to the complexity of the idea and its applicability to many types of businesses, including those operating internationally.

In general, relationship market theories serve as the foundation for the definitions of CRM (Badwan et al., 2017). Based on the theories, CRM can enhance customer interactions and experiences, cut operating expenses, and increase process efficiency (Fatouretchi, 2019). To illustrate, theoretical and empirical evidence have demonstrated how aspects of CRM, such as features and service quality, increase customer satisfaction, which in turn increases profitability for companies. For example, Nugrahini (2020) discloses that stronger customer relationships and increased customer loyalty to a company are two benefits of using an effective CRM for businesses. As a result, companies have been utilising CRM as a tactic to handle communications with both current and prospective customers. Therefore, it is generally held that CRM is a vital strategy for maintaining and enhancing customer satisfaction, customer loyalty, and company profitability.

A well-executed CRM system can boost revenue by attracting new customers and keeping hold of current ones, lowering operating costs for the hotel industry, boosting customer satisfaction, and guaranteeing long-term sustainability and profitability. Several CRM components, including service quality, accessibility, environmental protection, hotel reputation, and customer-perceived value, have been shown in studies to significantly increase customer satisfaction and trust. For instance, customer satisfaction in the hotel industry is positively correlated with the effective implementation of CRM, which includes customer relationship upgrading capability, customer orientation strategies, customer value, and customer interaction management practices. Recently, CRM has incorporated technology to interact with customers to optimise procedures that can affect customer satisfaction, customer loyalty, and company service quality.

According to Elphick (2023), like other industries, the hotel industry faces a variety of issues. Managing expectations from guests, preserving operational effectiveness, and guaranteeing financial profitability are common hotel issues besides inconsistent occupancy rates, difficulties in maintaining online reputations, and inconsistent customer service. Furthermore, their service quality can be affected by operational issues like personnel turnover, antiquated technology, and ineffective resource management. Fowler (2023) conducted a brief investigation of the hotel industry and found customer service issues to be the signpost for the decline and potential failure of an organization. This is critical in the hospitality sector, which comprises establishments such as hotels, restaurants, and other service-oriented organisations where customer satisfaction is critical. Poor customer service can destroy a customer's experience and impression of the business, which can result in negative publicity, a decline in customer loyalty, and, ultimately, lower sales. Organisations that want to stay in the game and uphold their reputation must prioritise providing outstanding customer service in a sector where customer satisfaction is crucial.

To succeed in the fiercely competitive marketplace of today, businesses must concentrate on establishing and preserving solid bonds with customers. However, many organisations struggle to implement effective elements in CRM, which can lead to poor customer satisfaction and loss of competitive edge. The current study believed in the value of CRM and how it could affect customer satisfaction, customer loyalty, and business success in the hospitality industry. The study would identify the elements of service quality, service accessibility, and service features that contribute to effective CRM components because CRM is the most effective strategy for establishing and preserving strong bonds with customers in the hospitality industry, including hotels. Consequently, the following are the research study's objectives:

RO1: To identify the relationship between quality of service, access to services, and service features on customer satisfaction at five-star hotels in Malaysia.
RO2: To identify the most influential elements of customer relationship management on customer satisfaction at five-star hotels in Malaysia.

2. Literature Review

Quality of Service

Many scholars have put forth a few significant definitions of service quality. According to Ali et al. (2021), service quality can be defined as the difference between the customer's expectations and their evaluation of the service provider. Meanwhile, Sultana et al. (2022) state that prompt service, reliable staff, high-quality services, ease of use, and procedural simplicity are the components of service quality in CRM. Because the provision of services in the hospitality sector invariably involves human beings, it ought to focus on personnel management, particularly service encounters (i.e., the interactions between employees and customers). According to Abdullah (2018), the aggregate effect of customer-participated service encounters determines the success or failure of the hospitality industry. Therefore, customer feedback on the standard of service quality provided in the hotel industry is crucial to the growth of the company (Ali, 2021). To please guests and win their loyalty, hotels should offer a competitive service (Abdulla et al. 2022).

The first dimension of service quality for a competitive service is tangibility. Tangibility is characterised by the way physical structures, tools, communication media, and technology appear. It improves the company's reputation and gives consumers hints about the caliber of services provided. For this reason, making physical facility investments is essential (Ramya et al., 2019). The second dimension of service quality is reliability. Reliability is the capacity to deliver the promised service precisely and consistently. Hence, reliability plays a significant role in how customers perceive the quality of a company's services and their loyalty, as they are more likely to interact with businesses that fulfill their commitments (Ramya et al., 2019). Reliability includes the assurances made by a service provider regarding pricing, problem-solving, delivery, and service offerings. For example, in banking services, regularity, attitude toward complaints, informing customers, and consistency in procedures are all examples of reliability.

The third dimension of service quality is responsiveness. Responsiveness is about the willingness to assist customers and offer timely service. Enhancing responsiveness necessitates ongoing observation of the service delivery procedure and staff members' responses to customer inquiries (Ramya et al., 2019). This dimension emphasises the demeanour and promptness in handling requests, enquiries, grievances, and issues from customers as well as the staff members' professional dedication, attendance, and punctuality. The fourth dimension of service quality is assurance. This dimension is concerned with job knowledge and skill, accuracy, employee civility, and the firm's security measures (Ramya et al., 2019). Assurance is the knowledge, politeness, and capacity of the company and its personnel to instill confidence and trust in their customers. It is especially crucial for financial services like banking and insurance, where customers may not feel confident in their capacity to assess results.

Another dimension of service quality is empathy, which is the considerate, customised care that service providers give their customers. Customised or individualised services seek to communicate that each customer is special and unique to the business. To succeed in this area, service providers must comprehend the unique requirements, desires, and preferences of their customers (Ramya et al., 2019).

Access to services

In the hotel industry, access to service refers to the availability and ease with which customers can obtain the services they need to have a satisfying experience (Park & Kang, 2019). Ng and Li (2011) contended that a hotel's ability to meet or surpass customer expectations depends largely on its ability to provide service and that to do so, it must constantly work to increase the effectiveness and efficiency of its service delivery procedures. According to a study by Khanna et al. (2018), guests who had trouble getting in touch with hotel staff expressed less satisfaction with their stay overall than those who had good access to assistance. It has also been discovered that, in the hotel industry, service accessibility plays a crucial role in determining the caliber of the guest experience. In a study by Lin et al. (2019), customers who had good access to service reported higher levels of satisfaction with their overall experience than those who received poor access to service. Access to service has also been found to affect not just customer satisfaction but also customer willingness to pay. For example, Salem (2023) found that customers who received good access to service were found to be willing to pay a premium for improved service quality, while those who received poor access to service were less willing to pay for upgrades or add-on services. In addition, access to services also relates to how easily customers can use hotel amenities, such as check-in and check-out, room service, and reservations during their stay at a hotel or resort. In a study by Power (2020), he found that the use of virtual assistants in customer service significantly increased customer satisfaction, especially for those looking for help making reservations for food and drink or room service.

Service Features

According to Gaulė & Jovarauskienė (2022), service features are elements or features of a service that enhance the total customer experience. The hospitality industry is a subset of the service sector that includes a broad range of jobs, including hotel, food and beverage services, event planning, theme parks, travel agencies, tourism, and bars and restaurants. In the hospitality sector, service features refer to the different facets of services that customers receive and that enhance their overall satisfaction and experience, including amenities and comfort, event management facilities, personalised greetings, food and beverage services, and lodging. By offering a variety of services catered to the needs and preferences of the customers, these features seek to improve their stay and level of satisfaction.

Personalised service elements have a big impact on customer satisfaction in the hospitality sector, surpassing expectations and encouraging loyalty (Kim & Kim, 2020). Studies reveal that guests appreciate experiences tailored to their preferences, including room temperature adjustments, amenity recommendations based on past stays, and even personalised greetings by staff (Gretzel & Yoo, 2020). This focus on individual needs translates into increased emotional connection, positive online reviews, and a higher willingness to recommend the establishment (Kim et al., 2023). According to Xiang et al. (2022), implementing technology solutions like mobile apps and AI-powered chatbots can further enhance personalization by facilitating self-service options, offering real-time recommendations, and enabling seamless communication.

Service features are essential for raising customer satisfaction. Effective communication abilities are one example of a service component that hotels need to give top priority to. To provide guests with individualised and attentive service, hospitality staff members need to be able to communicate effectively with customers and understand their needs and preferences. Moreover, managing visitor grievances and upholding favourable customer relations are crucial elements of first-rate customer service in the hospitality sector. Hotels can enhance their financial performance, establish a favorable reputation, and boost customer satisfaction by prioritizing the provision of outstanding customer service (Al-Hyari et al., 2023) because hospitality businesses can create memorable, personalized experiences that increase customer satisfaction and loyalty by putting a strong emphasis on guest-centricity and utilizing technology.

Customer Satisfaction

In the fiercely competitive hospitality industry, customer satisfaction stands as a cornerstone of success. It directly impacts everything from repeat business and positive online reviews to brand reputation and revenue generation (Kim et al., 2019). CRM plays a crucial role in fostering this satisfaction by strategically managing guest interactions and building meaningful relationships (Elfarmawi, 2019). Effective CRM practices demonstrably enhance customer satisfaction in the hospitality industry. Studies have shown a positive correlation between CRM implementation, perceived service quality, and guest satisfaction (Elfarmawi, 2019; Itani et al., 2019). According to Kim et al. (2019), contented customers are more likely to stick around, refer others to the company, and return for additional visits or experiences. This devotion strengthens the company's competitive advantage by translating into higher profitability and market share (Sarwari et al., 2021). Nonetheless, customer satisfaction within hospitality CRM goes beyond simply meeting basic needs. It encompasses exceeding expectations, creating memorable experiences, and fostering emotional connections with guests (Itani et al., 2019). This involves tailoring services to individual preferences, proactively addressing concerns, and demonstrating genuine care and attentiveness (Nurmatov et al., 2021). By leveraging CRM tools and strategies, hospitality businesses can personalize communication, gather and analyze guest feedback, and deliver targeted offerings that resonate with individual needs and desires (Bardukova, 2023).

Customer satisfaction in the hospitality industry is a dynamic concept that continuously evolves in response to shifting guest expectations and advancements in technology. The emergence of social media platforms like Facebook and Instagram, along with online review sites like TripAdvisor, has given visitors the ability to instantly share their experiences and impact the choices of others (Gretzel et al., 2020). Mobile technology has further transformed the guest journey, with apps allowing for seamless booking, contactless check-in, and personalised service requests (Xiang et al., 2023). Hospitality businesses must adapt their CRM strategies to this digital landscape by actively monitoring online sentiment through review analysis tools (Kim et al., 2022), responding to feedback promptly and transparently (Liu et al., 2019), and leveraging technology to personalise guest experiences with targeted promotions and recommendations based on past preferences (Gretzel et al., 2020). By embracing this dynamic environment and prioritising guest satisfaction throughout the customer journey, hospitality businesses can build enduring relationships, secure repeat business, and thrive in the ever-evolving hospitality landscape.

3. Methodology

The current study focused on local guests who had experienced staying at five-star hotels in Malaysia. According to the Ministry of Tourism, Arts, and Culture Malaysia's website (2023), there is a total of 136 five-star hotels in all states in Malaysia. And, according to the *Hotel Guest Statistics 2022* report by the Ministry of Tourism, Malaysia (2023), there was a total of 73 million hotel guests in Malaysia who served as the current study's population. Using the Krejcie and Morgan Table (1970), the study determined a sample size of 384 participants based on the population size.

The participants were made to answer a set of questionnaires. The questionnaire was designed to gather information on the guests' experiences, perceptions, and satisfaction levels with the services provided by five-star hotels in Malaysia. It comprised five primary sections: Demographic (7 items), Service Quality (7 items), Access to Services (5 items), Service Features (4 items), and Customer Satisfaction (5 items), and was structured using a 5-point Likert scale to capture participants' opinions. The Likert scale allows for a more granular understanding of the guests' attitudes and opinions, providing valuable insights about the hotel industry in Malaysia. In addition, to minimise misinterpretations and account for the varied backgrounds of the study participants, the questionnaire was offered in two languages: Bahasa Malaysia and English.

Data gathered were processed and analysed using the Statistical Package for Social Science (SPSS) version 28.

The reliability test was done to ensure all the survey items reached the reliability rate. On the other hand, a descriptive analysis focused primarily on the participants' demographic profiles and general information was explained through frequency analysis. Additionally, inferential analysis was conducted to test the hypotheses. Pearson's correlation analysis and multiple linear regression were employed to examine the impact of the independent variables (i.e., quality of services, access to services, and service features) on the dependent variable (i.e., customer satisfaction). The following were the research study's hypotheses:

H1: Quality of service has a positive, significant impact on customer satisfaction.
H2: Access to services has a positive and significant impact on customer satisfaction.
H3: Service features have a positive and significant impact on customer satisfaction.

4. Findings

Reliability Analysis

Table 1: Cronbach Alpha of All Variables

Variables	Dimensions	Cronbach Alpha	Number of Items
Independent Variables	Quality of Service	0.958	7
	Access to Services	0.911	5
	Service Features	0.820	4
Dependent Variables	Customer Satisfaction	0.917	5

Table 1 shows the analysis results of Cronbach Alpha for all the variables. According to the analysis, the Cronbach Alpha for quality of service was 0.958, access to services was 0.911, service features was 0.820, and customer satisfaction was 0.917. Based on the results of the analysis, the Cronbach Alpha for all of the study's variables was higher than 0.8, indicating reliable data for the current study.

Descriptive Analysis

Table 2: Analysis of Participants' Demographic Profiles

Variables	Categories	Frequency	Percentage (%)
Gender	Female	197	51.3
	Male	187	48.7
Age	18-22	87	22.7
	23-27	130	33.9
	27 and above	167	43.5
Educational Level	Pre-Diploma	5	1.3
	Diploma	95	24.7
	Bachelor's Degree	232	60.4
	Master's	17	4.4
	PhD	28	7.3
	SPM	3	0.8
	High School	1	0.3
	STPM	1	0.3

	SPM	1	0.3
	Certificate	1	0.3
Occupation	Student	171	44.5
	Employed	178	46.4
	Unemployed	35	9.1
	Retired	0	0.0
Monthly Income	Less than RM1500	147	38.3
	RM1500 – RM3000	75	19.5
	RM3000 – RM5000	78	20.3
	RM5000 and above	84	21.9
How often do you stay at 5-star hotels?	Frequently	83	21.6
	Occasionally	149	38.8
	Rarely	152	39.6
When was the last time you stayed at a 5-star hotel?	Within the last month	143	37.2
	Within the last year	129	33.6
	More than a year ago	112	29.2

Table 2 displays the demographic data of the current study. Based on Table 2, there was a total of 384 participants, with 197 (51.3%) female and 187 (48.7%) male participants. This indicated that most participants in the questionnaire were female. Furthermore, the questionnaire identified three age groups: 18 to 22 years old, 23 to 27 years old, and 27 years and above. A total of 167 (43.5%) participants were over 27 years old, while 130 (33.9%) participants were between 23 and 27 years old. The lowest number of participants who attempted the questionnaire were aged 18 to 22 years old, accounting for just 87 (22.7%) participants. Other than that, the data collected included the participant's level of education. Most participants (60.4%) were bachelor's degree holders, followed by diploma holders (24.7%), PhD holders (7.3%), master's holders (4.4%), pre-diploma holders (1.3%), SPM holders (0.8%), and other certificate holders (i.e., STPM, SPM, etc.) (0.3%). This indicated that most of the study participants were bachelor's degree holders.

In addition, based on participants' occupations, the highest number of the participants were students (44.5%), followed by employees (46.4%), and unemployed (9.1%). None of the participants was a retiree. The participants' total monthly income fell into four categories: less than RM1500, from RM1,500 to RM3,000, from RM3,000 to RM5,000, and RM5,000 and above. The majority of the 147 (38.3%) participants earned less than RM1,500, followed by the category of RM5,000 and above with 84 (21.9%) participants. The group of participants with an income between RM3,000 and RM5,000 comprises 78 (20.3%) participants, while 75 (19.5%) participants had an income between RM1,500 and RM3,000.

The question, 'How often do you stay at five-star hotels? ' indicated that 'rarely' gained the highest number of responses (39.6%), the second highest was 'occasionally' (38.8%), and the lowest was 'frequently' (21.6%). Lastly, for the question 'When was the last time you stayed at a five-star hotel?', most of the participants (37.2%) responded 'within the last month', followed by 'within the last year' (33.6%), and the least of the participants (29.2%) responded 'more than a year ago'.

Table 3: Descriptive Analysis

Variables	N	Mean	Standard Dev	Rank
Quality of service	384	4.1882	1.06493	1
Access to services	384	4.1396	1.04784	2
Service Features	384	4.0332	1.00831	3
Customer Satisfaction	384	4.1995	1.05924	
Valid N	384			

Table 3 presents the results of the study's descriptive analysis. Table 3 summarises the mean and standard deviation of each variable. In general, all variables recorded a mean value greater than 3.12, indicating a favourable outcome (Sekaran & Bougie, 2013). Among the independent variables, quality of service recorded the highest mean (4.18), followed by access to service (4.13) and service features (4.03). The average that was used to ascertain the pertinent data's central tendency was represented by the mean result. The study's mean value for every variable was close to 4.5, indicating that the majority of participants answered each question favourably.

Pearson Correlation Coefficient

Table 4: Correlation Analysis

		Quality of Service	Access to Services	Service Features
Customer Satisfaction	Pearson Correlation	0.969**	0.959**	0.940**
	Sig. (2-tailed)	0.001	0.001	0.001
	N	384	384	384

*Note: ** Correlation is significant at the 0.01 level (2-tailed)*
** Correlation is significant at the 0.05 level (2-tailed)*

Table 4 displays the results of the Pearson correlation coefficient analysis. Based on Table 4, the values were between 0.90 and 1.00. The result of the Pearson correlation coefficient value for quality of service was 0.969, indicating a strong positive relationship between quality of service and customer satisfaction. In addition, the results of the Pearson correlation coefficient value for access to services was 0.959, indicating a strong positive relationship between access to services and customer satisfaction. Finally, the results of the Pearson correlation coefficient value for service features was 0.940, indicating a strong positive relationship between service features and customer satisfaction. Hence, there were strong positive relationships between the study's independent variables (i.e., quality of service, access to services, and service features) and the dependent variable (i.e., customer satisfaction).

Table 5: Multiple Regression Analysis – Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.975[a]	0.951	0.950	0.23650

a. *Predictors: (Constant), Services Features, Quality of Service, Access to Services*
b. *Dependent Variable: Customer Satisfaction*

Based on Table 5, the R-square was 0.951, indicating that quality of service, access to services and service features contributed 95.1 per cent of customer satisfaction. Meanwhile, the remaining 4.9 percent of elements impacting customer satisfaction were from other independent variables, which were not measured in this study.

Table 6: Coefficient of Dependent Variable

		Unstandardised Coefficients		Standardised Coefficients		
	Model	B	Std. Error	Beta	t	Sig
1	(Constant)	.067	.050		1.341	.181
	Quality of Services	.567	.045	.570	12.481	.001
	Access to Services	.269	.047	.266	5.706	.001
	Service Features	.159	.039	.152	4.101	.001

Based on Table 6, the results of the coefficient of dependent variable for quality of service was 0.951 (p-value=0.001 < 0.05), indicating a strong positive relationship between quality of service and customer satisfaction at five-star hotels in Malaysia. Meanwhile, the results of the coefficient of the dependent variable for access to services and service features, each with 0.951 (p-value=0.001), indicated a positive relationship between access to services and customer satisfaction and service features and customer satisfaction at five-star hotels in Malaysia.

Furthermore, based on the standardised coefficient, quality of services had the highest beta coefficient value of 0.570, indicating a change of one standard deviation in quality of services results in a 0.570 standard deviation increase in customer satisfaction. The second lowest contribution to customer satisfaction was access to services with a value of 0.266, indicating that for each additional increase of standard deviation in access to services, the standard deviation of customer satisfaction decreased by 0.266. The lowest contribution to customer satisfaction was the service features, with a value of 0.152, indicating that for each additional increase of standard deviation in the service features, the standard deviation of customer satisfaction decreased by 0.152.

Discussion

The results of the SPSS Pearson correlation analysis indicated a positive relationship between the study's independent variables (i.e., quality of services, access to services, and service features) and the study's dependent variable (i.e., customer satisfaction). The values of the correlation coefficient for independent variables were very high (0.90–1.00), indicating their strong positive relationships. Based on the SPSS Pearson correlation coefficient's results, quality of service had a strong positive relationship with a value of 0.969. The other elements, access to services (0.959) and service features (0.940), also had strong positive relationships. These results revealed that the independent variables positively influenced the dependent variable. Thus, when the influence of independent variables (i.e., quality of service, access to services, and service features) increases, customer satisfaction will also increase. Next, based on the SPSS multiple regression analysis results, three independent variables- (i) quality of service, (ii) access to services, and (iii) service features- significantly affected customer satisfaction at five-star hotels in Malaysia, but the most effective was quality of service. Hence, these three variables will impact customer satisfaction when receiving services at five-star hotels in Malaysia. This result supported the study's hypothesis. First, Hypothesis 1, service quality had a positive significant impact on customer satisfaction and was accepted. The result is in line with the previous studies. Several studies (e.g., Abbasi et al.., 2010; Ahmed et al.., 2010; Chang, 2006; Gilaninia et al., 2011; Lien, 2010) found that service quality has a positive relationship with customer satisfaction. As the service quality increases, the level of overall customer satisfaction also increases. Thus, quality of service is deemed essential by customers to improve customer satisfaction.

Hypothesis 2 of the current study posited that access to services had a positive relationship with customer satisfaction, and the hypothesis was accepted. The present finding corroborated various studies (e.g., Gilaninia et al., 2011; Ahmed & Jawaberh, 2012). In the hotel industry, access to services is crucial to the satisfaction of the customers. The third hypothesis of the current study, which stated that the service features had a positive relationship with customer satisfaction, was also accepted. Service features are proven to be an important antecedent of customer satisfaction. This result is in line with the previous work carried out in customer relationship management and customer satisfaction studies (Gilaninia et al., 2012). In general, the study findings revealed positive relationships between the study's three independent variables and customer satisfaction. As a result, the first objective, which was to identify the relationship of elements in customer relationship management (CRM), which were quality of service, access to services, and service features on customer satisfaction at five-star hotels in Malaysia, was met.

The current study also utilised multiple regression analysis to prove and answer the second research objective and question. Based on the findings, quality of service was the most influential element of customer relationship management on customer satisfaction at five-star hotels in Malaysia. This can be seen from the beta weight in the standardized coefficient. Standardised coefficients beta measure the influence of each variable on the model. The study found that quality of service was the most influential element of customer relationship management on customer satisfaction. This suggests a strong correlation between the two, supporting the notion that raising customer satisfaction levels through better services can have a direct positive impact on service quality. Also, access to services emerged as the second most influential factor in customer relationship management affecting customer satisfaction. In short, the second objective of the study, which was to identify the most influential elements of customer relationship management (CRM) on customer satisfaction at five-star hotels in Malaysia, found that quality of service was the most influential element.

To conclude, the study's findings underscore the importance of hotel operators' services in determining customer satisfaction, which is influenced by customers' preference for convenient and high-quality amenities over cosy accommodations (Faizal & Abdullah, 2022).

5. Conclusion and Recommendations

In conclusion, this study provides value to all stakeholders. Future studies that investigate elements in customer relationship management on customer satisfaction could use this study as a model. The methodology adopted in the current study may be used to undertake new research or assess the reliability of new findings. Additionally, this study may be used as a guide and a resource for students pursuing related topics, particularly those taking courses in hotel management. This research also provides a valuable contribution to hotel organisations. To improve the organisation, managers and the human resources department can use this research to understand more about the relationship between elements in customer relationship management and customer satisfaction. This study also helps employers educate their staff on the value of researching the factors contributing to the excellent relationship of elements in customer relationship management on customer satisfaction so that organisations may continue expanding and retaining personnel to meet short- and long-term objectives. Excellent results from effective and efficient relationships of elements in customer relationship management on customer satisfaction encourage organisations to compete and retain market share. Nonetheless, the current study had limitations. The limitations involve the difficulty in locating relevant articles, particularly those discussing customer relationship management and customer satisfaction. Although there were many academic publications available online related to the independent variables and customer satisfaction, they were insufficient to support this research due to the study's specific focus on the hotel industry in Malaysia.

Additionally, there was a limited number of journals on the impact of the independent variables on the hotel industry in Malaysia. As a result, the articles required for this study are not as widely available as others, making the process of locating them time-consuming. For future researchers aiming to delve into this topic, several recommendations can enhance the study. Expanding the research to focus on four-star and five-star hotels to obtain a large sample size will make the data more accurate. Additionally, future studies can focus on different categories of customers, such as baby boomers, business guests, and female travellers, to enhance value and add unique perspectives. Furthermore, future studies should consider including additional elements of customer relationship management, such as knowledge and management (Sofi et al., 2024), to provide a more holistic understanding of customer relationship management practices at five-star hotels in Malaysia. Lastly, widening the scope of participants to include foreign customers as well as local guests is also beneficial.

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Determinants of Food Selections among International Travelers Towards Malaysian Cuisine

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Abstract: Food plays a crucial role in the travel experience, serving as an important aspect of destination marketing to attract international travelers to Malaysia. Therefore, this study discovers the determinants of Malaysian food selections among travelers. A quantitative research approach was used in this study due to its effectiveness in data collection. A descriptive study was used to determine the motivational and psychological factors affecting the selection of Malaysian cuisine by international travelers. A non-probability, convenience sampling method was developed, consenting to the selection of any international travelers meeting the criteria. The target population for this study consisted of international travelers located in Kuala Lumpur. The selection of the population was travelers staying in Malaysia for a duration of three days to two weeks and who had tried Malaysian cuisine during their visit. Data was gathered through self-administered surveys of 398 travelers visiting Malaysia. The findings reveal a positive relationship between these motivational factors and travelers' intention to consume local food. The study suggests that experiencing local cuisine helps create positive, lasting memories, intensifying tourists' relationships with local attractions and enhancing their behavioral intentions.

Keywords: *Malaysian Cuisine, Motivational Factors, Psychological Factors, Travelers*

1. Introduction

Tourism has become one of the biggest industries worldwide, adding significantly to the economic development of many nations (UNWTO, 2023). Malaysia, known for its vibrant cultural diversity, is an increasingly popular tourist destination, particularly due to its rich culinary heritage (Othman et al., 2020). The realm's food is an incomparable combination of Malay, Chinese, Indian, and homegrown influences, making it a key fascination for international travelers seeking genuine gastronomic experiences (Chandran et al., 2021). Food plays an integral role in inspiring a traveler's overall experience, serving as both a reflection of local culture and a significant motivator in travel decisions (Chang et al., 2022). According to Heung and Gu (2023), Malaysia's cuisine has acquired global recognition, but determinants that stimulate international travelers' food selection remain underexplored. Several variables, including cultural background, perceived authenticity, social media influences, and even food safety observations, might shape how international tourists/travelers secure and select Malaysian cuisine.

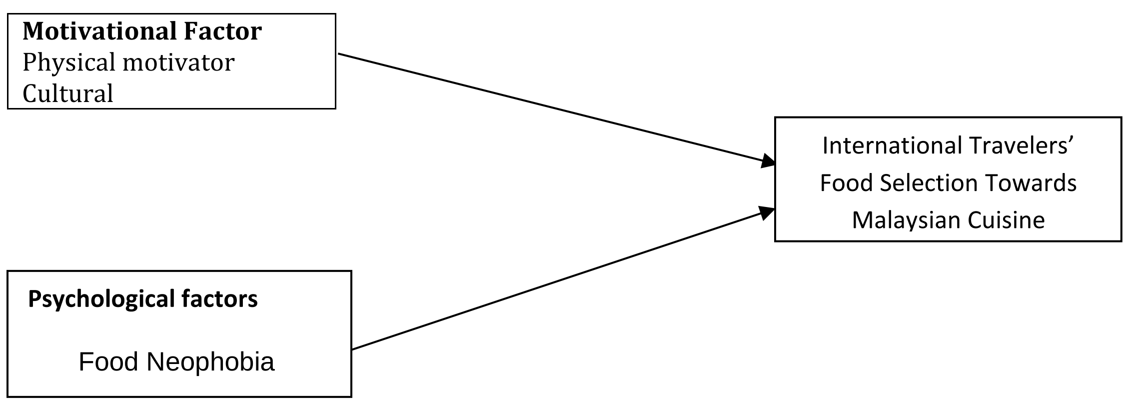
Considering these determinants is crucial for Malaysia as the country seeks to position itself as a global food tourism hub and enhance its competitive improvement in the tourism industry. Therefore, the emergent prominence of food tourism has prompted scholars to investigate the elements that affect travelers' food selection, with some studies highlighting the role of food-related emotions and sensory experiences in destination decision-making (Kim et al., 2021). Thus, this research aims to examine the key determinants influencing international travelers' selection of Malaysian cuisine, considering both intrinsic and extrinsic motivators.

As food tourism grows in importance, understanding the determinants influencing international travelers' food selection becomes essential for a destination, namely Malaysia, which seeks to enhance its competitive edge in the global tourism market. Several determinants influence food preferences among international travelers, including cultural familiarity, food authenticity, taste preferences, food safety, and social media exposure (Heung & Gu, 2023). Malaysian cuisine has become one of the central attractions in Malaysia, with dishes such as *nasi lemak*, *char kway teow*, *satay*, and *laksa* being recognized internationally (Tan et al., 2022). For many travelers, the yearning to experience authentic food is often a motivating force behind their travel rulings, making food a key element in shaping their overall perception of a destination (Hjalager, 2022). Tourists' decisions regarding which local foods to try are not only guided by individual tastes but also by perceptions of the food's authenticity and the availability of food-related information before and during the trip (Kim et al., 2021). Social media platforms, food bloggers, and online reviews increasingly shape tourist expectations and experiences (Smith & Chang, 2022). Furthermore, factors such as food safety, hygiene standards, and even environmental sustainability are progressively persuading travelers' choices in destination food consumption (Chang et al., 2022).

The primary aim of this research is to examine the key determinants influencing international travelers' food preferences for Malaysian local food. By understanding these factors, the study will explore how travelers' motivation to try new or unfamiliar foods, essentially their degree of food neophobia or food neophilia, shapes their decisions when selecting Malaysian cuisine. The following are the research study's objectives:

RO1: To identify the key determinants that influence international travelers' food selection towards Malaysian cuisine
RO2: To examine the key determinant~~s~~ of the factor that influenced international travelers' food selection towards Malaysian cuisine

The frameworks shown below are adopted from Athena et al. (2012) and consist of two motivational factors for tourist consumption from Crompton and McKay (1997) and Kim et al. (2009). Two psychological factors for travelers' selection from Crompton and McKay (1997) and Kim et al. (2009). Understanding psychological factors based on these categorizations can assist destination marketing organizations and the broader tourism industry in enhancing their understanding of international tourists' preferred experiences while traveling.



The craving to taste local or regional dishes, especially street food, can stem from an intrinsic need for excitement and sensory stimulation, allowing travelers to engage with a destination in a more immersive and adventurous way (Sthapit et al., 2022). According to Kim et al. (2021), tourists when traveling are often more open to taking greater risks and trying something new than they would do in their everyday lives. The novelty of a journey can encourage neophilia tendencies, encouraging tourists to explore unfamiliar and exotic foods that they might avoid in their home countries. As street food becomes a progressively integral part of the global food tourism scene, its popularity continues to grow, particularly among travelers seeking authentic and unique culinary experiences (Sánchez-Carrillo et al., 2023). Nevertheless, to certify the sustainability of the street food industry, it is important to address the potential health possibilities associated with it. These incorporate stronger hygiene practices and food safety principles to reduce risks and protect both customers and vendors (Heung & Gu, 2023).

2. Literature Review

Motivational Factors

Two key motivational factors, which are physical and cultural, must be considered to identify the influences on international tourists' food preferences for Malaysian local cuisine. From the tourism perspective, motivation refers to the internal psychological drivers that prompt individuals to act in particular ways or spark their interest in travel and engaging in tourist activities.

In the context of food tourism, physical motivators often relate to the sensory appeal of food, such as aroma, taste, visual presentation, and texture (Imtiyaz, Soni, & Yukongdi, 2021). As the sensory experience of eating is a significant aspect of the overall tourism experience, these elements can stimulate tourists' desire to try local dishes. The physical motivator signifies the tangible, sensory aspects of a tourist's familiarity that drive their curiosity and fondness towards certain activities, including food consumption (Sthapit, Piramanayayagam & Björk, 2020).

For global tourists, physical factors associated with food can involve the desirability of unusual flavors or distinctive ingredients that they may not find in their home nations. The physical act of overriding local cuisine turns out to be a form of physical exploration, where tourists pursue novel and satisfying occurrences that satisfy their craving and curiosity. According to Gursoy, Chi, and Dyer (2009), this type of motivation is often driven by the need for physical satisfaction and the satisfaction of unique or unfamiliar culinary experiences.

Cultural influence is widely recognized as a significant factor in shaping food preferences and consumption patterns across different societies (Logue, 1991). Culture is deeply embedded in the values, traditions, and practices of a community, affecting not only the types of food consumed but also the methods of preparation, presentation, and consumption. As Finkelstein (1998) highlights, culture serves as a guiding framework that shapes what is considered edible or inedible, as well as how food is perceived in terms of social significance and dietary habits. This influence extends to how individuals evaluate the acceptability and quality of food based on sensory attributes such as taste, texture, aroma, and appearance (Prescott et al., 2002). Cultural norms often dictate which sensory properties are desirable, creating preferences that vary widely between regions and communities. For instance, while spicy foods may be integral to one culture, they may be less favored or even avoided in another.

Moreover, culture functions as a system of classification, determining how foods are grouped into categories such as "acceptable," "exotic," "edible," or "palatable" (Long, 2004; Makela, 2000). These classifications are influenced by historical, religious, and social contexts. For example, a food considered a delicacy in one culture might be seen as exotic or unpalatable in another. Religious dietary laws and traditional customs also play a significant role in defining these categories, further emphasizing the strong interconnection between culture and food choices. In essence, cultural influence goes beyond shaping mere preferences; it establishes a framework for understanding food within a broader social, historical, and emotional context. This cultural framework ultimately governs not only the physical act of eating but also the meanings and values associated with food in daily life.

Psychological factors
These psychological concepts can expressively affect travelers' motivation to try new and unfamiliar foods, such as traditional Malaysian dishes, which are often portrayed by unique flavors and ingredients. The partiality of international travelers to Malaysian local food is influenced by a variety of factors, including psychological factors such as food neophobia and food neophilia.

Travelers who display food neophobia may show reluctance towards trying street food or unfamiliar local dishes, fearing they may be too exotic, spicy, or unsafe. Referring to Heung & Gu (2023), this fear can be compounded by concerns about food safety, hygiene, and unfamiliar ingredients. Food neophobia tends to be manipulated by a variety of factors, including previous experiences with food, cultural background, and individual psychological traits (Raudenbush, 2021). For example, travelers from cultures with restrictive diets or more Westernized food systems might be more hesitant to try authentic Malaysian dishes, particularly those served in street food markets, which may be perceived as less hygienic or too different from their normal food preferences (Tan et al., 2022; Raudenbush, 2021).

Food neophilia is often drawn to the idea of trying unfamiliar foods as part of their travel adventure, and this psychological trait can significantly shape their food choices while traveling (Sthapit et al., 2022). Food neophilia, described by an excitement to try new and novel foods, plays a meaningful role in food tourism and stimulates how international travelers engage with local cuisines, particularly in destinations like Malaysia, where food culture is rich and varied. For food neophiles, trying authentic, unique, or exotic dishes is an exciting part of the destination's allure, and they are more likely to explore street food, local specialties, and regional beverages that offer a taste of the culture.

3. Methodology

A quantitative research approach was applied due to its effectiveness in data collection. A descriptive study was used to determine the motivational and psychological factors affecting the selection of Malaysian cuisine by international travelers. A non-probability, convenience sampling method was developed, consenting to the selection of any international travelers meeting the criteria. The target population for this study consisted of international travelers located in Kuala Lumpur. The selection of the population was travelers staying in Malaysia for a duration of three days to two weeks and who had tried Malaysian cuisine during their visit. The instruments are built based on the independent variables. The instrument was designed based on a thorough review of the literature from prior studies. Section A focused on the respondents' demographic details, including gender, age, education level, nationality, occupation, and marital status. Section B addressed motivational factors, encompassing physical and cultural factors on international travelers' food selection for Malaysian cuisine. Finally, Section C examined psychological factors using a questionnaire grounded in previous research to assess the Food Neophobia Scale (FNS). To ensure data reliability and consistency, a pilot test (n=50) was conducted before the main study. A reliability analysis (Cronbach's alpha) was performed to assess the internal consistency of the attributes measured. The analysis outcomes of this study presented the Cronbach value in each variable shown in Table 1. Generally, all the variables have an α value of higher than 0.7.

Table 1: Reliability Analysis

	Cronbach's Alpha	N
Physical Motivator	0.892	5
Cultural	0.950	5
Psychological Factors	0.746	5

Traveler arrivals in Malaysia accounted for more than 24.7 million. Conferring to Krejcie and Morgan's (1970) sample size table, a required sample size of 381 was calculated to achieve a 95% assurance level. This was supported by Sekaran and Bougie (2010), who affirmed that convenience sampling was appropriate for this study. 450 questionnaires were distributed around Bukit Bintang and Kuala Lumpur Convention Centre (KLCC), which are known as frequently visited spots by international travelers. Out of the distributed surveys, 52 were rejected, leaving 398 valid and usable responses. Data analysis was performed using SPSS. Descriptive statistics were employed to identify the key determinants that influenced international travelers' food selection towards Malaysian cuisine.

4. Findings and Discussion

The research objectives were answered based on descriptive analysis by observing the mean scores rated by the respondents. Two (2) parts are comprised of motivational factors towards travelers' food selection: physical and cultural. All questionnaires were designed with a 7-point rating scale (1 = strongly disagree to 7 = strongly agree), so there is no biased selection.

Descriptive Analysis

Objective 1: To determine the motivational factors affecting international travelers' food selection.

The Effect of Physical Factors

This sub-unit analyzes the mean score given by the respondents on the effect of physical motivators on travelers' food selection towards Malaysian cuisine. The respondents' scores are presented in Table 2.

Table 2: The Mean Score of Respondents on the Effect of Physical Factors

Questions	N	Mean	Standard Deviation
Tasting local food is exciting to me	398	5.43	1.56
Tasting local food makes me feel excited	398	6.00	1.24
Tasting local food takes me away from the masses and noise	398	6.11	.876
It is important to me that the local food I eat smells nice	398	6.33	.666
It is important to me that the local food I eat tastes good	398	6.34	1.57

The findings from the mean score analysis in Table 2 highlight interesting dynamics in how travelers perceive local food. The high mean score for the statement that local food "tastes good" (M = 6.34, SD = 1.57) underscores the central role that taste plays in shaping tourists' preferences and satisfaction with local cuisine. This result suggests that the sensory pleasure derived from taste is a significant factor in their overall dining experience. However, the relatively lower mean score for the statement that tasting local food is "an exciting experience" (M = 5.43, SD = 1.56) reveals a gap in how engaging the experience is perceived. This discrepancy indicates that while the taste of local food is highly appreciated, other experiential dimensions may not be as strongly felt by the respondents.

Studies by Chen et al. (2021) and Kuo et al. (2023) emphasize that tasting local food is inherently a multisensory experience. Beyond taste, factors like presentation (sight) and aroma (smell) significantly influence the perception of food. These findings suggest that for local food to deliver a truly exciting experience, efforts should focus on enhancing these multi-sensory aspects. For example, creative presentation, immersive storytelling about the food's cultural significance, and aromatic complexity could enhance excitement and deepen overall sensory engagement. Additionally, the gap between the taste and excitement ratings could imply a need to link food consumption more directly to cultural and emotional experiences. This could involve interactive food events, guided tastings, or culinary storytelling that connects tourists with the local culture, making the experience flavorful, emotionally enriching, and memorable.

The Effect of Cultural Factors

This sub-unit analyzes the mean score given by the respondents on the effect of cultural motivators on travelers' food selection towards Malaysian cuisine. The respondents' scores are presented in Table 3.

Table 3: The Mean Score of Respondents on the Effect of Cultural Factors

Questions	N	Mean	Std. Deviation
Experiencing Malaysian cuisine enables me to learn what Malaysian cuisine tastes like	398	5.44	1.57
Experiencing Malaysian cuisine allows me to discover something new	398	6.00	1.24
Experiencing Malaysian cuisine makes me see things that I do not normally see	398	6.11	.876
Experiencing Malaysian cuisine helped me see other people live	398	5.44	1.57
Experiencing Malaysian cuisine allows me to increase my knowledge about a different culture	398	6.36	1.56

The highest mean score for the opportunity to explore Malaysian cuisine (M = 6.36, SD = 1.56) highlights that travelers are enthusiastic about discovering new foods as a way to broaden their understanding of diverse cultures. This suggests that food acts as a gateway for cross-cultural appreciation, offering a tangible and enjoyable way for travelers to connect with the heritage and traditions of Malaysia. However, the slightly lower mean score for the statement about fully appreciating Malaysian cuisine's unique flavors or gaining deeper insights into the lifestyles of others (M = 5.44, SD = 1.57) points to an area of ambiguity or underperformance in the culinary experience. This could imply that while travelers value the exposure to new foods, the experiential and cultural dimensions might not be fully realized. This gap could result from a lack of contextual storytelling, limited interaction with local communities, or insufficient emphasis on the cultural narratives behind the cuisine.

Sanip et al. (2022) underscore the richness of Malaysia's multicultural society, shaped by the Malays, Chinese, Indians, and various Indigenous groups, which has culminated in a vibrant and diverse culinary landscape. This diversity presents immense potential for local cuisine to serve as more than just a sensory experience—it can act as a medium for cultural education and connection. By incorporating elements such as guided food tours, cultural explanations behind dishes, or interactive cooking sessions, tourists could better appreciate the flavors and lifestyles tied to the food. Furthermore, enhancing the culinary experience to reflect Malaysia's multicultural tradition can deepen tourists' engagement. For example, showcasing how different ethnic groups have influenced iconic Malaysian dishes could help tourists see the interconnectedness of the culture and cuisine. Similarly, encouraging interactions between tourists and locals, such as through home-cooked meal experiences or street food tours, could provide insight into daily lifestyles and elevate the appreciation of unique flavors.

The Effect of Psychological Factors

This sub-unit analyzes the mean score given by the respondents on the psychological factor of travelers' food selection towards Malaysian cuisine. The respondents' scores are presented in Table 4.

Table 4: The Mean Score of Respondents on the Effect of Psychological Factors

Questions	N	Mean	Std. Deviation
I am constantly sampling new and different food	398	5.44	1.57
If I do not know what is in a food, I will not try it	398	6.00	1.24
I am afraid to eat things I have never had before	398	6.11	.876
I like food from different countries	398	5.44	1.57
I am very particular about the foods I will eat	398	6.10	.892

The results from the mean score analysis reveal several key insights regarding respondents' psychological factors of food selection towards Malaysian cuisine. The main mean score was perceived for the statement that respondents are afraid to eat foods they have never tried before (M = 6.11, SD = 0.876), tracked closely by the statement that respondents are very particular about the foods they eat (M = 6.10, SD = 1.57). These findings propose a significant degree of food neophobia among the participants, which is reliable with the conceptualization of food neophobia as a personality trait characterized by an inclination for recognizable foods over novel ones (Pliner & Salvy, 2006). This propensity to avoid unfamiliar foods is associated with broader literature, which implies that tourists often show a preference for foods they are accustomed to while resisting the opportunity to sample local varieties (Yuan et al., 2020; Duan et al., 2022).

On the other hand, the lowest mean score was testified for the statement regarding respondents' willingness to constantly sample new and different foods and their preference for food from different countries (M = 5.44, SD = 1.57) and (M = 5.44, SD = 1.57), respectively. This reflects a lower level of food neophilia, or the tendency to embrace novel and diverse food experiences. Together, food neophobia and food neophilia represent two key psychological factors influencing travelers' inclination to try local foods while traveling (Cheung & Kwan, 2021; Tarinc et al., 2023; Ledesma-Chaves et al., 2024).

Objective 2: To examine the factors that influenced most international travelers' food selection towards Malaysian local food

Based on Table 5, the most influential factor is the motivational factor (β= .819) as compared to the psychological factors. This variable gave the strongest contribution to explain the dependent variable when the variance explained by all other variables in the model is controlled for. Psychological factors (β= -1.262) contributed less to travelers' preferences. Nevertheless, both motivational factors and psychological factors contributed significantly to the prediction of the dependent variable ($p<0.05$) (Pallant, 2005). Motivational and psychological factors:-motivational is the most influential factor as compared to the other one.

Table 5: The Mean Score of Respondents Motivational and Psychological

	N	Mean	Std. Deviation
Motivational factors	398	5.32	.819
Psychological factors	398	4.51	.740

Motivational factors are typically more prominent than psychological factors in determining tourist behavior. In tourism, motivation refers to internal psychological desires that drive individuals to travel or remain in tourist undertakings, such as cultural experiences, relaxation, or adventure (Ryan & Deci, 2020). While psychological factors like attitudes and perceptions also play a role, it is the motivation that primarily stimulates the desire to travel and participate in tourism (Gursoy et al., 2021). Understanding these motivations is essential for tourism marketers to fascinate and engage tourists.

5. Conclusion

Although this study provides treasured insights into the perceptions of international travelers visiting Malaysia, it also has several restraints that should be deliberated. The outcomes offer meaningful and interesting results, but some challenges were encountered during data collection. The research was primarily aimed at international travelers in the Kuala Lumpur area; nonetheless, participation was inadequate by travelers who were unwilling to participate in the survey, as they chose to spend quality time with family and friends and expressed a lack of interest in participating.

Furthermore, the study concentrated wholly on Asian tourists. According to the Malaysian Tourism Board (2023), Asian tourists make up the major demographic of international visitors to Malaysia, yet the sample lacked adequate representation from Western tourists. Comprising a broader range of international visitors, predominantly from Western countries, would likely boost the generalizability and dependability of the findings.

Besides that, the geographic scope of the study was narrowed to specific urban areas, such as Bukit Bintang and Kuala Lumpur City Centre (KLCC), due to logistical limits such as weather conditions and time limitations. Expanding the data collection to other areas, such as the Klang Valley and Selangor region, would provide a more wide-ranging view of international tourists' pictures and experiences.

Next, forthcoming studies could benefit from a broader consideration of Malaysia's diverse food offerings, particularly those from minority ethnic groups, such as the Baba-Nyonya cuisine and indigenous food from the Borneo region. This would offer a more nuanced understanding of travelers' perceptions of Malaysian food. Moreover, further research should explore the actual consumption patterns of international travelers about local food, to determine whether perceptions align with actual behavior. This would provide a more comprehensive picture of the role that food plays in shaping the inclusive tourism experience in Malaysia.

Apart from various limitations, the findings of this study denote that the mass of international travelers observe Malaysia as offering not only a variety of tourism activities and products, but also an exceptional selection of food, beverages, and food culture, which serve as substantial attractions. This perception highlights the potential of local Malaysian cuisine to act as a catalyst for boosting the local economy. Considering these findings, it is obvious that business operators, tourism-related organizations (such as travel agencies and non-governmental organizations), and government bodies (including the Ministry of Tourism and the Ministry of Culture and Arts) should recognize the value of this trend and take proactive measures to promote Malaysian cuisine to international travelers. Such culinary offerings could serve as key "pull factors" in attracting tourists to Malaysia.

The cooperation and coordination amongst travel agencies, food service operators, government organizations, and other investors is obligatory for augmenting the "total tourism experience" for international tourists. Without an integrated approach to endorsing Malaysia's rich culinary heritage, the potential of these tourism products may remain underutilized.

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Cracking the Code: A Systematic Literature Review of Factors Influencing Micro Business Technological Innovation Adoption

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Abstract: Microbusinesses are essential in promoting local economies by creating job opportunities, generating income, and improving community welfare. Yet, their adoption of technological innovation remains limited due to various internal and external barriers, making the research on this topic continue to expand and remain relevant. This study systematically reviews existing literature to identify the key determinants influencing technological innovation adoption in microbusinesses. The findings reveal that internal factors, such as digital literacy, education levels, psychological traits, and access to technology, play a significant role in shaping their adoption decisions. Notably, knowledge and education emerge as critical enablers, as informed microbusiness owners demonstrate a higher propensity for technological innovation adoption. External influences, including perceived usefulness and ease of use of technological innovation and social influence, further impact the adoption process. Based on these findings, targeted training programs with mentorship initiatives and policy interventions like financial incentives are recommended to facilitate this population's adoption of technological innovation. As for academics looking to review this topic systematically, future studies are suggested to incorporate a broader range of databases and must not stop replicating to continuously update the literature to include the most recent studies.

Keywords: *Microbusinesses, determinants, technological, innovation, adoption*

1. Introduction

Micro businesses, typically characterized as small enterprises with fewer than ten individuals, are instrumental in propelling economic growth and promoting innovative practices (Organization for Economic Co-operation and Development (OECD), 2017). Serving as catalysts for regional economic activity, they make substantial contributions to job creation, income generation, and the overall well-being of local communities (Azmi, 2020). To ensure their sustainability and prosperity in today's dynamic business landscape, the adoption of technological innovation is crucial (Eliakis et al., 2020; Martínez-Peláez et al., 2023). Technological innovation encompasses the economic process of introducing new technologies into production and consumption, including identifying new technological opportunities, mobilizing human and financial resources for their transformation into useful products and processes, and supporting these essential endeavors (Scherer, 2001). By adopting and implementing technological innovation, especially for micro businesses, these organizations can augment their competitiveness, improve productivity, and adeptly address evolving market demands (Karr et al., 2020; Surya et al., 2021).

Despite its potential, records have shown that the adoption of technological innovation among micro businesses remains low (Anton et al., 2023; Dorrington et al., 2016). In Southeast Asia, for instance, only a modest 20% of MSMEs have adopted even the simplest form of technological advancement one can adopt, which is Online-to-Offline platforms (Bain & Company, 2021). Even during pressing times, such as when the world fell to the ground due to COVID-19, the uncertainty and volatility of the market during the pandemic have made businesses hesitant to invest in new technologies, fearing that these investments may not yield immediate returns (Reuschl et al., 2022). Not accounting for the complexity and high costs associated with implementing advanced technologies, many businesses were deterred from adopting them (Osei et al., 2022) despite the technology having numerous benefits, including the ability to sustain the business. Therefore, given the pivotal role of technological innovation adoption within micro businesses, evaluating the various factors affecting such adoption is vital. Lamentably, the existing literature on technological innovation in the micro business domain has predominantly focused on the operators' implementation of the innovation (e.g., Borowski, 2021; Pougnet et al., 2022), barriers (e.g., Claudino et al., 2017; Jocevski et al., 2020; Lee et al., 2019), success factors (e.g., Grabowska, 2015; Moghavvemi et al., 2021; Phuangrod et al., 2017), and the diffusion within the industry (e.g., Jimenez-Mavillard & Suarez, 2020; Stylos et al., 2021) with limited discussion on how technological innovation is initially embraced or factors influenced its adoption (Juniarti & Omar, 2021). This paper undertakes a systematic literature review (SLR) that consolidates and assesses the current corpus of research on the determinants influencing technological innovation adoption in micro-enterprises.

This review aims to give a comprehensive understanding of the numerous factors at play in influencing the adoption by compiling and analyzing prior research findings. With these insights, specific policies, strategies, and interventions may be developed to encourage and support the adoption of innovation by microbusinesses, eventually promoting economic growth and sustainable development. In contrast to conventional literature reviews that may lack thoroughness and systematic methodology, the systematic approach utilized in this study facilitates the identification of all pertinent papers and documents that satisfy predetermined inclusion criteria, thereby enabling the examination of specific research inquiries with greater precision and rigor (Mengist et al., 2020; Snyder, 2019).

2. Literature Review

A micro-business represents the smallest category of business operations, with definitions varying across national boundaries based on each country's economic context and regulatory framework. In the United States, these enterprises are defined as microbusinesses with nine or fewer employees generating less than $250,000 in annual revenue (Fallon-O'Leary, 2024). The European Union takes a more generous view, establishing a threshold of €2 million in annual turnover (European Union, 2025), while India uses investment thresholds of ₹1 crore and an annual turnover of not more than ₹5 crore (Ministry of Micro, Small & Medium Enterprises, 2020). In developing nations such as Bangladesh, the definition incorporates even smaller operations with minimal capital investment, sometimes as low as $500 (Mukta et al., 2024). Australia takes a workforce-focused approach, with the Australian Bureau of Statistics (2012) classifying microbusinesses as those that employ between 0 and 4 individuals and often encompass sole proprietorships where the owner operates independently without extra staff. Meanwhile, Malaysia sets its sights on enterprises that generate under RM300,000 in annual sales or operate with fewer than five employees (SME Corp. Malaysia, 2020). Despite these varying definitions, microbusinesses consistently drive the local economies through entrepreneurship, and the advent of technological innovation has opened new horizons for their growth and sustainability. This advancement has emerged as a powerful enabler for these micro-businesses, offering transformative opportunities to overcome their inherent limitations of size and resources.

In the modern world, the terms "technology" and "innovation" are intricately intertwined as they continuously fuel and complement each other (Pang et al., 2020). When discussions revolve around technological advancements, innovation inevitably takes center stage. This strong association between technology and innovation can be attributed to several compelling reasons. Firstly, technology serves as a vital enabler of innovation (Zhang et al., 2022). Emerging technologies provide the essential tools and resources that empower individuals, organizations, and societies to conceive and develop new ideas, products, or processes (Zhang et al., 2019). These technologies act as catalysts, expanding the horizons of innovation by presenting novel possibilities and opportunities previously unimaginable (Shin et al., 2018). At the same time, technological progress often begets the necessity for innovation; as technology evolves and advances, it brings forth new challenges and complexities, which, in turn, demand innovative solutions (Jonek-Kowalska, 2021). This synergy between technology and innovation underscores their pivotal role in driving progress and shaping the contemporary landscape of technological innovation.

As this dynamic interplay continues to evolve, businesses have emerged as critical actors in translating technological potential into practical, value-creating solutions (Jiang & Li, 2020; Kung, 2021). One crucial mechanism through which this technological potential is translated into strategic opportunities is adoption. In this context, technological innovation adoption becomes more than a mere technological process—it represents a strategic imperative that enables organizations to navigate and leverage the complex interconnections between emerging technologies and innovative potential (Kruger & Steyn, 2022). The significance of technological innovation adoption becomes particularly pronounced when examining micro businesses.

The strategic importance of technological innovation adoption extends beyond immediate operational benefits. It represents a critical mechanism for micro businesses to remain relevant in an increasingly digital and interconnected global economy. By embracing technological innovations, these enterprises can develop dynamic capabilities that enable them to respond more effectively to market changes (Sullivan & Wamba, 2024), align better with customer demand, and enhance their competitiveness in a rapidly changing environment (Räisänen & Tuovinen, 2020).

3. Methodology

The review was guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol. The fact that PRISMA is a more generic standard widely utilized across numerous research domains makes it eligible for use in this study. The PRISMA approach, which consists of four distinct phases, namely identification, screening, eligibility, and inclusion, was developed to facilitate the identification and selection of scientific publications of superior quality (Santos et al., 2021).

Identification: According to Younger (2010), when conducting an SLR, it is recommended to employ a comprehensive search strategy involving multiple databases. This approach aims to increase the likelihood of identifying relevant publications. Similarly, Vassar et al. (2017) suggested that a comprehensive investigation should encompass a substantial range of databases, surpassing the mere examination of one or two, to mitigate the potential influence of selection bias. Hence, this particular section compiled existing research by conducting a comprehensive search across the electronic databases subscribed by the university library system, namely Scopus, Web of Science, and ScienceDirect, which are widely recognized for their academic credibility. The databases in question are renowned for their robustness and comprehensive coverage of a diverse array of academic journals. The previously posed inquiries have led to the formulation of specific terms: micro business, innovation, and technology acceptance/adoption. These keywords have been employed in conjunction with relevant and equivalent phrases. Subsequently, the aforementioned keyword combinations were subjected to diverse search methodologies, encompassing the utilization of field code functions, phrase searching, and Boolean operators. The search query employed is displayed in Table 1. This preliminary phase of the SLR has effectively obtained a total of 63 articles, comprising nine from the ScienceDirect database, 47 from Scopus, and seven from Web of Science.

Table 1: **The Search String**

Database	Search String
ScienceDirect/ Scopus	TITLE-ABS-KEY (("innovation adoption" OR "innovation acceptance" OR "technology acceptance" OR "technology adoption") AND ("microenterprise" OR "micro business" OR "micro firm" OR "micro-entrepreneur"))
Web of Science	ALL=(("innovation adoption" OR "innovation acceptance" OR "technology acceptance" OR "technology adoption") AND ("microenterprise" OR "micro business" OR "micro firm" OR "micro-entrepreneur"))

Screening: The selected articles underwent a rigorous and thorough evaluation process. During the initial screening process, redundant items were excluded, resulting in the elimination of a total of seven articles in the preliminary round. Next, the chosen articles must satisfy all inclusion criteria outlined in this SLR. First, note that the articles selected were between 2018 and 2022. This period was specifically chosen as it encompasses the pre-pandemic, pandemic, and initial post-pandemic periods, providing a distinctive perspective on the factors that influenced them before, during, and after unprecedented circumstances. Table 2 presents the other criteria employed in selecting the papers for inclusion in the review.

Table 2: Selection Criteria

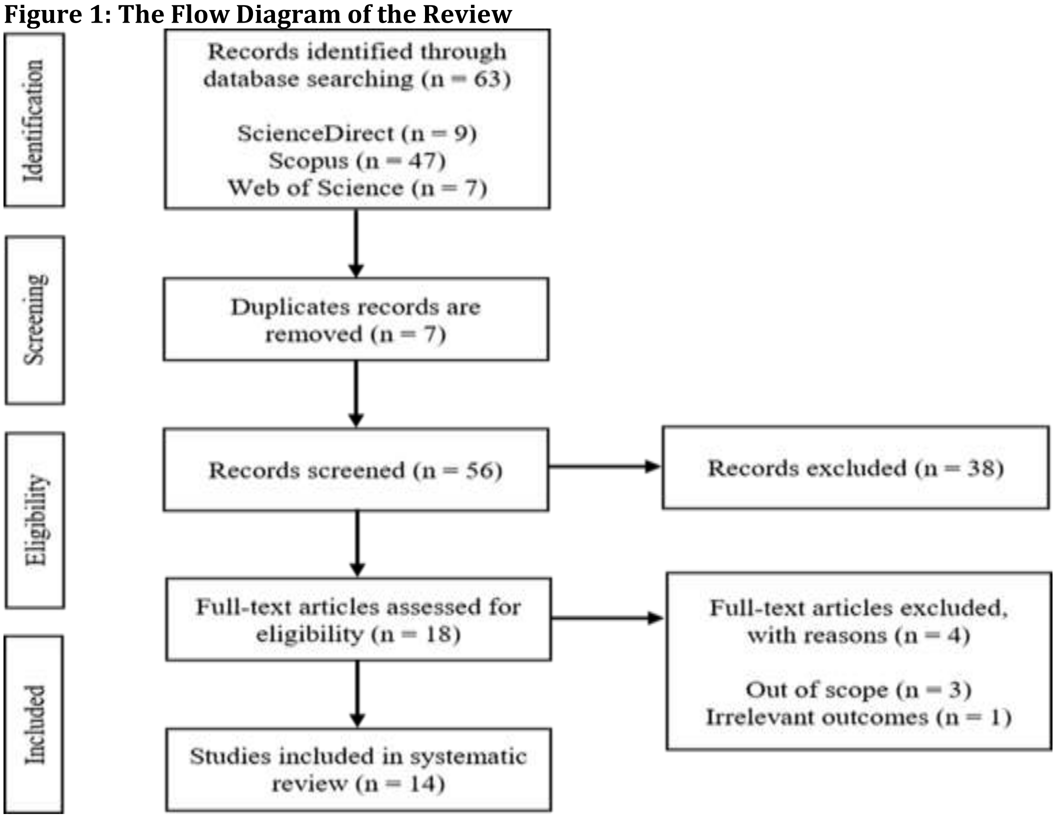
Criterion	Inclusion	Exclusion
Language	English	All other languages
Type of Publication	Peer-reviewed journal articles	Books; book chapters; conference papers and proceedings, theses; working papers; reports; press articles

Disciplines	All subject areas	None
Type of Research	Empirical	Theoretical; Reviews
Methodology	All	None
Sample	Micro Business/ Enterprise	Other Categories/ SME

Eligibility: The author manually examined the remaining articles, reviewing the titles, abstracts, and full papers to ascertain their adherence to the pre-established inclusion criteria. A total of 38 items were excluded based on the screening of titles and abstracts, followed by the exclusion of an additional four articles after a thorough examination of their content. Currently, a total of 42 publications have been excluded from consideration due to their classification as either pre-2018 review papers or their lack of relevance to the determinants influencing the adoption of innovation by microbusinesses. Ultimately, a total of 14 articles completed the initial evaluation phase, as depicted in Figure 1.

Inclusion: The evaluation of the remaining articles was conducted in a manner that ensured independence. Emphasis was placed on specific research that yielded responses to the designated inquiries. The extraction of data involved an initial review of the abstracts, followed by a comprehensive examination of the entire article to identify pertinent themes. A qualitative study was conducted to explore themes about the factors influencing the adoption of technological innovation in micro-businesses, utilizing thematic analysis as the research method. The selected articles were analyzed using a six-step thematic analysis procedure (Braun & Clarke, 2006; Clarke & Braun, 2017). This approach enables the systematic identification and interpretation of patterns or themes in the data, thereby facilitating a thorough comprehension of the articles. The analysis process commenced with a thorough perusal and familiarization of the articles to achieve a comprehensive understanding of the data. Initial codes were generated to encapsulate the main concepts and ideas that emerged. Subsequently, these codes were categorized into more comprehensive thematic categories that accurately represented the data's common patterns and relationships. All authors involved in this study have consented to these codes.

Figure 1: The Flow Diagram of the Review



Source: Adapted from Shaffril et al. (2020)

4. Results and Findings

Finally, this literature analysis has comprehensively reviewed 14 scholarly articles. Within the five years between 2018 and 2022, there has been a significant focus in academic research on the adoption of digital technologies within micro businesses. As evidenced by the findings presented in Table 3, most of the studies examined in this research focused on Information and Communication Technology (ICT) as the primary technological domain, including computer hardware, software, and networks. This was followed by investigations into e-commerce, social media, digital media, e-wallet services, innovation platforms, and one non-digital technology, the alternative energy source in the form of a solar home system.

Table 3: Technologies Examined in the Literature

Innovation/ Technologies	References	Themes
Social media	(Alharthi & Alhothali, 2021)	
Digital media.	(Camilleri, 2019)	
E-Commerce, M-Commerce	(Salazar et al., 2022); (Pipitwanichakarn & Wongtada, 2019); (Yusoff et al., 2021)	
E-Wallet service	(Gichuki & Mulu-Mutuku, 2018)	Digital technologies
ICT	(Crittenden et al., 2019); (Sardar et al., 2021); (Handoko et al., 2019); (Chatterjee et al., 2020); (Afolayan & de la Harpe, 2020); (Aryanathu & Venkata Ravi, 2021); (Segares, 2021)	
Solar home systems	(Kurata et al., 2018)	alternative energy sources, technologies

Through a thorough analysis of the accessible data, it can be discerned that the factors influencing the adoption of technological innovation in micro-businesses can be categorized into two distinct components: the internal factors of individual and external factors encompassing innovation attributes and social influence. A concise overview of the themes identified within each factor is presented in Table 4.

Table 4: Themes Identified

Studies	Region	Internal Antecedents				External Antecedents		
		K	EL	PT	AT	PU	PEOU	SI
folayan & de la Harpe, 2020)	South Africa	/						
chuki & Mulu-Mutuku, 2018)	Kenya	/	/					
lazar et al., 2022)	Costa Rica			/		/	/	
usoff et al., 2021)	Malaysia			/				
atterjee et al., 2020)	India				/			
yanathu & Venkata Ravi, 2021)	India					/		
milleri, 2019)	Europe					/		
andoko et al., 2019)	Indonesia					/	/	
rata et al., 2018)	Bangladesh					/		
pitwanichakarn & Wongtada, 2019)	Thailand					/	/	
rdar et al., 2021)	Pakistan					/	/	
harthi & Alhothali, 2021)	Saudi Arabia					/	/	
gares, 2021)	United States							/
ittenden et al., 2019)	South Africa					/	/	

Internal Antecedents	External Antecedents
K: Knowledge	**PU**: Perceived Usefulness
EL: Education Level	**PEOU**: Perceived Ease of Use
PT: Psychological Traits	**SI**: Social Influence

AT: Access to Technology

Internal factors of the individual

The internal factors of the individual significantly influence the adoption decisions made by micro-businesses, whether they are made by the owners or the managers. These characteristics encompass factors such as knowledge, level of education, authority, and psychological traits.

Knowledge as a Catalyst for Innovation Adoption: One of the fundamental internal factors that greatly impact technological innovation adoption in microbusinesses is the level of knowledge possessed by individuals involved in the decision-making process. Knowledge acts as a catalyst, facilitating the recognition of new opportunities and understanding the potential benefits of technological innovations (Tortoriello et al., 2015). According to Afolayan and de la Harpe (2020), it is evident that small firms often rely on anecdotal knowledge derived from their judgment, communication habits, and past experiences when making decisions to adopt new technologies. The owners and managers who deeply understand the industry, market trends, and emerging technologies are more likely to make informed and forward-thinking adoption decisions. With extensive knowledge, these individuals can assess the relevance of a particular innovation to their business operations, leading to quicker and more confident adoption.

Moreover, they are better equipped to navigate the complexities and potential risks associated with adopting new technologies. In contrast, individuals lacking in knowledge may approach technological innovations skeptically, fearing the potential disruptions they may bring. This finding further highlights the pivotal role of continuous learning and industry-specific knowledge in fostering a culture of innovation within micro businesses.

The Significance of Education Levels: Education levels represent another critical internal factor influencing technological innovation adoption in microbusinesses. Gichuki and Mulu-Mutuku (2018) suggest that the level of education is likely to influence the extent of awareness and adoption of these technologies. Owners and managers with higher levels of formal education are often more receptive to change and innovation. Formal education equips individuals with problem-solving skills and instills a mindset that is open to new ideas and experiences.

This finding is in line with other studies conducted specifically within this realm. For example, Burbules et al. (2020) have shown that acquiring knowledge and skills via education has a pivotal role in shaping the future well-being of individuals and the long-term viability of the global ecosystem. This proactive approach to knowledge acquisition can lead to a greater willingness to adopt innovative technologies (Ra et al., 2019) that can enhance efficiency, reduce costs, and improve overall business performance (Walters & Rodriguez, 2017; Tan & Olaore, 2022; Valero, 2021).

Psychological Traits: The Human Element: Beyond knowledge and education, the psychological traits of individuals are crucial determinants of technological innovation adoption within microbusinesses. Risk tolerance and a propensity for innovation significantly shape an individual's attitude toward change and innovation. Yusoff et al. (2021) argue that individuals' evaluations of an innovation's ease of use and usefulness are shaped by their motivation for achievement and propensity for risk-taking. Those who are risk-averse may be hesitant to invest in unproven technologies, whereas others with a higher tolerance for risk may readily welcome uncertainty and perceive it as a potential avenue for advancement. There exists a substantial correlation between individuals' risk tolerance and their level of education (Grable & Rabbani, 2023; Riepe et al., 2022).

Consequently, these factors significantly determine individuals' inclination to adopt and utilize the innovation. Despite being limited by their lack of experience, individuals still rely on their perceptions, even in situations where they lack prior experience or guidance (Salazar et al., 2022). They possess a natural inclination toward innovation and experimentation and are more likely to seek out and champion new technologies that have the potential to transform their business operations. This underscores the significance of their cognitive disposition.

Moreover, the individual needs to exhibit a level of proficiency in managing the various aspects of the business, particularly in the realm of finance, to make an informed decision regarding adoption, as highlighted by Gichuki and Mulu-Mutuku (2018). Possessing business nous, better referred to as entrepreneurship skill, is important in navigating the business apart from other skills required to propel the business further (Gerig, 2018; Guzmán et al., 2020; Jardim, 2021).

Access to Technology: As these microenterprises strive to navigate the intricacies of the current business environment, the extent to which they can acquire and harness technology plays a crucial role in determining their competitiveness and growth prospects. Access to technology is undeniably a fundamental internal factor that significantly influences technological innovation adoption in micro businesses. Access can be conceptualized as the provision of opportunities to utilize various resources and information that not only encompasses financial resources, which is the key component that collectively determines the feasibility and ease with which micro businesses can adopt new technologies, but also covers aspects like mental access, material access, skill, and usage access (Chatterjee et al., 2020). While material access means access to technology, the other aspects relate to the root influence of knowledge on the efficacy of utilizing the technology.

External Factors

The constructs of the Technology Acceptance Model (TAM) have frequently been identified as a significant determinant of innovation adoption, with particular emphasis on technological attributes, as noted by Handoko et al. (2019) and Pipitwanichakarn and Wongtada (2019). In most of the gathered publications, perceived usefulness and ease of use were identified as the primary factors influencing adoption, compared to other characteristics.

Perceived Usefulness: The perceived usefulness of a technological innovation represents a fundamental external factor that influences microbusinesses' adoption decisions. Rooted in the TAM, this construct posits that individuals and organizations are more likely to adopt a technology if they perceive it as beneficial and advantageous to their goals and operations. The consensus among micro-businesses is that technological progress is expected to enhance operational efficiency and facilitate future business expansion (Aryanathu & Venkata Ravi, 2021; Salazar et al., 2022). According to Kurata et al. (2018), even implementing a basic innovation such as a solitary solar-powered bulb, which consumes less energy and is cost-effective, has the potential to enhance the fundamental functionality of the business operation.

Furthermore, perceived usefulness extends beyond mere cost-benefit analysis. It encompasses the broader strategic implications of technology adoption. For instance, the integration of ICT in business has been driven by its ability to facilitate social connections with the marketplace, stakeholders (Camilleri, 2019), and customers (Crittenden et al., 2019), as well as its cost-effective expansion of the corporate network (Sardar et al., 2021). The significance of the strategic aspect of perceived usefulness highlights the necessity of adopting a comprehensive approach to evaluating technology. In this context, micro businesses consider not only immediate benefits but also future growth potential from adopting technologies.

Perceived Ease of Use: Within the TAM framework, perceived ease of use pertains to the degree to which individuals believe utilizing a specific technology would be devoid of exertion and complexities. Technologies that can be effortlessly integrated into established workflows and need minimum interruption to everyday routines are more inclined to be embraced (Saghafian et al., 2021). In contrast, complex and cumbersome systems may deter adoption as they impose additional training, maintenance, and troubleshooting costs. This element gains notable importance in microbusinesses, where the availability of time and money is limited. Hence, from the gathered publication, it is evident that the accessibility and user-friendliness of the technologies (Alharthi & Alhothali, 2021; Crittenden et al., 2019; Handoko et al., 2019; Pipitwanichakarn & Wongtada, 2019; Salazar et al., 2022), coupled with the absence of a need for specialized training (Sardar et al., 2021) appeal the micro businesses to adopt.

Social Influence: The presence of social influence and its role in fostering a supportive atmosphere is a critical factor that has been well-documented in gathered research on technological innovation adoption within micro businesses. Studies by Alharthi and Alhothali (2021) and Segares (2021) have shed light on the profound impact of social influence on the adoption decisions made by these small-scale enterprises. When stakeholders within the microbusiness, including owners, managers, and employees, are positively influenced by their peers or industry networks, they are more likely to perceive technology adoption as a valuable endeavor, especially to connect with their customers (Alharthi & Alhothali, 2021).

Within the microbusiness community, word-of-mouth recommendations and endorsements carry significant weight. When one micro business owner or manager shares their positive experiences with a particular technology solution, it can influence others to consider and adopt the same technology (Alharthi & Alhothali, 2021). While there is no direct positive correlation with adoption intention, it indirectly promotes the development of positive adoption intention by mitigating user resistance (Yoo et al., 2021). Thus, it is no wonder that social influence has been integrated into many major foundational theoretical frameworks of technology adoption research, including the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Technology Acceptance Model 2 (TAM2) (Venkatesh & Davis, 2000), and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003).

5. Conclusion and Recommendations

One of the key findings from this review highlights multifarious antecedents that stimulate technological innovation in microbusinesses, which is contingent upon the specific technology being examined in each article. The finding uncovered the human attribute that significantly influences micro-enterprise decision-making compared to bigger organizations. It corroborated the conclusions put forth by Barroga et al. (2019) and Elbeltagi et al. (2013), which emphasize the importance of incorporating individual and organizational-level analyses when investigating the adoption of innovation in micro-businesses, given that micro-business decisions are primarily driven by their owners. Furthermore, it is worth noting that there is presently a lack of consensus regarding the determinants that ultimately influence the adoption of technological innovation in micro businesses. This argument is justified due to the extensive examination of technological innovations in diverse contexts, each characterized by distinct theoretical frameworks and conducted with varied participant demographics. The complexity is further heightened because the technological innovation being examined possesses its own distinct set of attributes and applications, as is evident in the unique qualities of both digital and non-digital technologies. It is, therefore, no trifling matter that the identified antecedents have established a robust foundation for further inquiry and academic discourse on the adoption of technological innovations by microbusinesses to amplify the growing body of knowledge in this field of study.

Nevertheless, one suggestion that can be made to enhance the adoption of technological innovation among microbusinesses is for the policymakers and industry stakeholders to implement training programs focusing on technology integration in business. These programs should be designed to address the knowledge gap identified in this study, providing microbusiness owners with an added understanding of the importance of technological innovation for their business. Additionally, these programs may include mentorship initiatives, connecting micro business owners with technology adopters in similar industries to foster peer learning and reduce adoption hesitancy. The government, specifically, may introduce financial incentives that subsidize access to essential technological innovations to further encourage micro businesses to integrate technological solutions into their operations.

Limitations: As with any other study based on a literature review, one of the key limitations of this current study on factors influencing microbusinesses' technological innovation adoption is the temporal scope of the study. Given the rapid pace at which new research is published, particularly in the dynamic field of innovation adoption, it is inherently challenging to include the latest publications. The data collected for this study is restricted to the period it was written. Therefore, no studies published beyond that time have been taken into account. By excluding the most recent research, our present evaluation may overlook the newest advancements and lose the opportunity to comprehensively represent the current state of knowledge. It can also lead to a gap in capturing the most recent empirical data that could be critical for understanding contemporary practices of micro businesses. Such omissions might affect the relevance and applicability of the findings.

Another notable limitation of this study is that the literature search was limited to three databases: Scopus, Web of Science, and ScienceDirect. While these databases are reputable and comprehensive, providing a wide range of excellent scientific publications, confining the search to these platforms narrows the breadth or scope of the literature review. Moreover, by not including other potential databases, there is a risk of omitting relevant studies, particularly those published in journals or conference proceedings not indexed by Scopus, Web of Science, or ScienceDirect. That said, by broadening the database scope, the current review could have been more holistic in understanding the factors that influence technological innovation adoption among micro businesses. Including a variety of databases, the research would be able to encompass a broader range of viewpoints and findings, thus enriching the overall analysis and conclusions of the study. Consequently, the review might not fully capture the diversity of experiences, strategies, and outcomes related to innovation adoption across different contexts and periods.

In summary, while the systematic approach taken in this review offers a structured and detailed examination of existing literature, these limitations should be acknowledged to ensure that readers understand the scope and boundaries of the study. Acknowledging these limitations helps to contextualize the study's contributions and underscores the need for ongoing research in this evolving field. As for suggestions, to resolve these limitations, future research should incorporate a broader range of databases and must not stop replicating to continuously update the literature to include the most recent studies. This would result in a more comprehensive and up-to-date analysis of technological innovation adoption, particularly among micro businesses.

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From Table to Trash: Behavioral Insights into Food Waste in Klang Valley Restaurants

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Abstract: Food waste has significant environmental impacts and poses a major challenge for restaurant operations in the Klang Valley. To examine the elements of the Norm Activation Model (NAM) that influence consumer intentions to reduce food waste, a quantitative method was utilized to select 290 respondents. 290 valid responses were collected through face-to-face data distributions and an online questionnaire before being analyzed using the Statistical Package for the Social Sciences (SPSS). The study examines how personal norms (PN), ascription of responsibility (AR), and awareness of consequences (AC) influence personal norms (PN) and how personal norm (PN) influences intention (INT) to reduce food waste. Findings reveal that the intention to reduce food waste (INT) is significantly influenced by personal norms (PN), with awareness of consequences (AC) and ascription of responsibility (AR) both positively influencing personal norms (PN). These interventions align with the NAM model by increasing awareness, reinforcing responsibility, and shaping personal norms that encourage sustainable dining behaviors among consumers. Thus, the findings of the study benefit all key stakeholders, including restaurants, policymakers, and consumers, by advocating effective solutions to minimize food waste in the Klang Valley's restaurants.

Keywords: *Norm activation Theory (NAM), Personal Norm (PN), Awareness of Consequences (AC), Ascription of Responsibility (AR), Food Waste*

1. Introduction

Food waste constitutes a substantial global issue with extensive repercussions on economies, cultures, and the environment, as highlighted by concerning data. In 2019, an estimated 931 million tons of food were squandered globally, representing more than 17% of total food production (Shen et al., 2023; Jang & Ahn, 2024). Food waste not only impedes attempts to address food security but also significantly contributes to the exhaustion of resources and greenhouse gas emissions, worsening environmental concerns. (Sha'ari et al.). Food waste is a crucial issue in Malaysia, especially in the Klang Valley (Ariffin et al., 2023). Known for its vibrant culinary and restaurant scene, the Klang Valley faces substantial challenges in food waste control (Ariffin et al., 2023). The restaurant industry has experienced a rise in food waste generation due to the rapid urbanization and economic development in this metropolitan area, which has resulted in increased consumption patterns (Ariffin et al., 2023; Sha'ari et al., 2023).

The restaurant industry driven by customer behavior and operational practices, is a major contributor to food waste. Significant waste occurs due to overordering, incorrect portion sizes, and stringent quality standards (Sha'ari et al., 2023; Lin & Lee, 2024). It is crucial to have a better grasp on these issues to adopt successful solutions in mitigating food waste in restaurants. This research utilizes the Norm Activation Model (NAM), which asserts that individual behaviors are shaped by personal norms, awareness of consequences, and awareness of responsibility (Schwartz, 1977). Specifically, the study examines how ascription of responsibility (AR), awareness of consequences (AC) and personal norms (PN) influence customers' intentions (INT) to reduce food waste in restaurants (Wang et al., 2022; Iriyadi et al., 2023).

Notwithstanding comprehensive studies to minimize food waste, a significant gap in the comprehension of consumer behavior persists, especially within the realm of Klang Valley eateries. (Ariffin et al., 2023: Phooi et al., 2022). Most existing studies highlight household food waste, leaving a significant knowledge gap for restaurant-specific solutions (Phooi et al.., 2022; Kumar & Rathore, 2024). By providing useful information that can direct certain laws and regulations to sustainable practices in the restaurant business, this study seeks to address this gap. Thus, this study examines how (PN), (AR), and (AC) influence (PN) and how (PN) influences (INT) to reduce food waste.

2. Literature Review

Norm Activation Model (NAM): The (NAM), introduced by Schwartz (1977), offers a framework for predicting prosocial behavior and exploring environmental intentions. NAM's key constructs are awareness of consequences (AC), ascription of responsibility (AR) and personal norms (PN), which shape an individual's behavior through internalized moral norms and social expectations (Kim and Seock, 2019; De Groot et al., 2021; Savari et al., 2023). As can be seen in Figure 1, both (AC) and (AR) have a direct and significant effect on (PN). (PN) are essential in motivating individuals to reduce food waste by fostering feelings of guilt about waste and raising awareness of environmental impacts (Ariestingsih et al., 2020; Wang et al., 2022). The study underscores the consistent influence of personal standards on intentions to reduce household food waste (Obuobi et al., 2023; Iriyadi et al., 2023). However, there are few empirical studies specifically applying NAM to understand restaurant food waste from customers' perspectives, highlighting a significant research gap and the need for further investigation in this area (Kim et al., 2022). This gap highlights the importance of study to clarify these links and guide actions aimed at fostering sustainable practices within the food business. Figure 2 illustrates the research framework adopted from Iriyadi et al. (2023).

Figure 1: 2 Direct Effect model of NAM

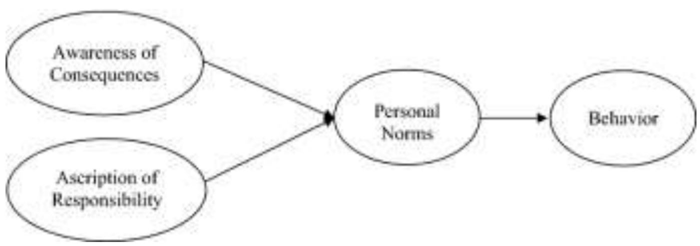
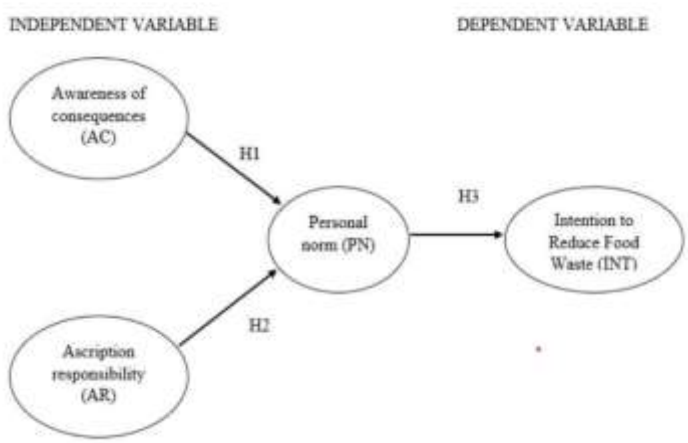


Figure 2: Research Framework



Iriyadi et al., (2023)

Intention to reduce food waste: Within the (NAM) framework, the intention to reduce food waste is influenced by several factors identified in recent studies. Awareness of the environmental and economic impacts of food waste significantly enhances people's intentions to act (Talwar et al., 2021). (PN), where individuals feel a moral obligation or personal responsibility to minimize waste, are crucial in motivating behaviors like meal planning and proper storage (Kim et al, 2022; Song et al., 2023). Social norms, including observing waste reduction behaviors and social expectations of responsible consumption, further reinforce intentions towards sustainable practices (Chun T'ing et al., 2021). Through the integration of these facts, the NAM offers a comprehensive framework for understanding and encouraging goals to reduce food waste, therefore aiding broader sustainability initiatives within the restaurant industry.

Personal Norm (PN) and Consumer Intention (INT) to reduce food waste: Personal norm can be defined characterized as a moral obligations to specific acts (Schwartz, 1977). It significantly influences consumers' intentions (INT) to avoid wasting food in restaurants. Research indicates that when consumers view food waste reduction as a personal responsibility, they are more likely to have intentions aligned with this norm (Kim et al., 2022; Iriyadi et al., 2023). Studies indicate that personal norms strongly predict intentions to reduce food waste, highlighting the critical role of moral conviction and responsibility in consumer behavior (Obuobi et al., 2023; Song et al., 2023). Additionally, awareness of the consequences of food waste and a sense of responsibility are factors that shape personal norms and influence consumer intentions (Wang et al., 2022; Obuobi et al., 2023). This understanding is crucial for promoting behaviors that reduce food waste among consumers and highlights the psychological factors driving such behaviors (Jang & Kim, 2023). Consequently, the following hypothesis was articulated:
H1: (PN) significantly influence consumers' (INT).

Awareness of Consequences (AC) to Personal Norm (PN): Awareness of consequences for individual standards involves recognizing the negative impact of one's actions on others or valued entities, which fosters responsibility and altruism (Schwartz, 1977). This includes understanding how personal behavior affects the environment and social well-being, influencing ethical decision-making in a pro-environmental context (Iriyadi et al., 2023). This awareness encompasses the belief that individual actions can worsen existing problems, motivating people to act in ways that mitigate harm and adhere to moral principles (Setiawan et al., 2021; Wang et al., 2022). By connecting moral principles to behavior, awareness of consequences shapes personal norms and encourages behaviors that reduce food waste and promote environmental sustainability (Kim et al., 2022; Setiawan et al., 2021). Consequently, the following hypothesis was articulated:
H2: (AC) significantly influences consumers' (PN).

Ascription of Responsibility (AR) to Personal Norm (PN): Ascription of responsibility (AR) pertains to individuals' sense of duty regarding the adverse outcomes of failing to adopt environmentally sustainable behaviors (Wang et al., 2022). People are more likely to participate in waste reduction when they perceive a sense of responsibility (Munerah et al., 2021). A sense of responsibility influences personal norms and it is necessary for sustainable tourism (Long et al., 2022; Wang et al., 2022). Tourists' pro-environmental behaviors, such as reducing waste and staying in green hotels, are crucial for sustainability (Ritchie et al., 2022). Awareness of the effects of food waste encourages personal norms related to saving food (Wang et al., 2022). Ultimately, a strong sense of responsibility and personal norms significantly impact food waste reduction behavior (Kim et al., 2022; Aydin & Yildrim, 2021). Consequently, the following hypothesis was articulated:
H3: (AR) significantly influence consumer's (PN).

3. Methodology

Research Design and Population: This research uses a correlational research design within a quantitative framework to explore the relationships between variables without direct intervention. Quantitative methods were selected to generate numerical data and facilitate statistical analysis. The research focuses on consumers in Klang Valley, where the population is approximately one million. This population was chosen to investigate their intentions to reduce food waste at restaurants.

Sampling, Instrument Development, and Data Collection: This study adopted a purposive sampling technique. A sample size of 166 respondents was calculated using G*Power software, with over 290 hard copies and additional online questionnaires distributed to account for potential low response rates. This dual methodology will be executed in alignment with prior studies that employed both physical and digital survey forms to obtain comprehensive data for their analyses (Nelson et al., 2021). Klang Valley was selected according to Chun T'ing et al. (2021); food waste happens more often in cities with larger populations and evolving trends of dining out. Data collection occurred over two months using Google Forms and QR codes placed at licensed eateries. Only participants who had visited a restaurant in Klang Valley in the past month and intended to do so in the future were included. Consequently, the target respondents for this research were Malaysian adults (aged 18 and above). The questionnaire was adapted from Iriyadi et al. (2023) and is available in English and Bahasa Melayu. It comprises six sections and measures responses using a five-point Likert scale. The Likert scale can provide additional information about the participants' perceptions of agreement towards a descriptive question, and it can show extensive insight into the analyzed results, which can further improve the objectivity of the study (Sekaran & Bougie, 2016). The estimated time for the respondents to finish the questionnaires was 15-20 minutes.

Data Analysis: For data analysis, SPSS version 26.0 was used in employing techniques such as reliability analysis, descriptive analysis, and Pearson correlation. Reliability testing showed satisfactory Cronbach's Alpha values for key constructs, ensuring internal consistency. Results underscore the reliability and validity of the data, enabling meaningful insights into consumers' intentions to reduce food waste.

4. Findings

The questionnaire data has been analyzed using SPSS (Statistical Package for Social Sciences) Version 27. The questionnaires were distributed to a total of 290 respondents using an online platform, specifically a Google Forms link. The questionnaire consists of five sections, each requiring a screening question before proceeding to the next section to ensure that the respondent is qualified to answer it. The independent and dependent variables used in this investigation are listed in the following sections.

Table 1 shows the demographic analysis revealing a diverse sample of 290 respondents. The sample was slightly female-dominated (52.5%), with a strong representation of young to mid-career professionals aged 26-45 years (27.8%). The racial composition reflected Malaysia's multicultural landscape, with significant representation from Indian (46.2%), Malay (30.7%), and Chinese (22.5%) communities. Respondents predominantly belonged to middle-income households, with 38.3% earning between RM 3000-4999. The employment profile was balanced, with substantial representation from the private sector (26.6%), government (26.3%), and self-employed (21.5%) categories, ensuring a comprehensive perspective across various socio-economic segments.

Table 1: Respondents' Demographic

Variables	Categories	Frequency	Percentage (%)
Gender	Male	137	47.5
	Female	153	52.5
Age	< 25-years-old	60	20.6
	26-35 years old	84	27.8
	36-45 years old	73	24.7
	46-55 years old	51	18
	> 56 years old	22	8.9
Race	Malay	91	30.7
	Chinese	65	22.5
	Indian	132	46.2
	Other	2	0.68
Household income	RM 1000-RM 2999	77	26.5
	RM 1000-RM 4999	65	22.4
	RM 3000-RM 4999	111	38.3
	RM 5000 dan ke atas	37	12.8
Employment	Student	39	13.9
	Self-employed	62	21.5
	Government	77	26.3
	Private	79	26.6
	Not working	33	11.7

Descriptive Analysis: Table 2 shows the findings of the descriptive analysis conducted on the research instrument. The descriptive analysis of the (INT) dimension reveals a consistent and strong commitment to minimizing food waste across various contexts. The survey items demonstrate high mean scores, ranging from 3.67 to 4.13 on a 5-point scale. Specifically, participants showed the highest intention (M = 4.13, SD = 1.071) towards finishing all food ordered in a restaurant. The standard deviation of around 1.07-1.21 indicates some variability in responses, suggesting that while the majority strongly agree, there is still a spread of opinions. The item "I intend to produce as few leftovers as possible" also received high agreement (M = 4.11, SD = 1.113), further emphasizing participants' proactive approach to food waste reduction.

The (PN) construct demonstrates a robust internal moral motivation towards reducing food waste. Participants consistently reported high personal obligation and emotional engagement with the issue. The most striking response was to the statement "I will be a better individual if I don't waste food" which garnered a mean of 4.23 with a standard deviation of 1.204. This finding suggests a strong personal identity connection to food waste reduction. Participants also expressed significant emotional distress about food waste, with a mean of 3.89 (SD = 1.056) for feeling disturbed by the amount of resources required in food processing. The high mean scores across personal norm items indicate a deep-seated moral commitment to responsible food consumption.

The (AR) dimension reveals a collective approach to addressing food waste. Participants overwhelmingly agreed that responsibility is a shared endeavor. The statement "Everyone is responsible for reducing food waste" had a mean of 3.94 (SD = 1.034), indicating a strong sense of collective accountability. Interestingly, participants are “willing to reduce food waste even when others might not” with a mean of 3.73 (SD = 0.899). The item about “feeling responsible for the negative consequences of food waste” scored particularly high (M = 4.20, SD = 1.234), suggesting a profound sense of personal and collective responsibility.

The (AC) construct highlights participants' sophisticated understanding of the broader impacts of food waste. Respondents showed high agreement that reducing food waste has wide-reaching benefits. The statement "Reducing food waste will benefit everyone" had a mean of 4.16 (SD = 1.102), demonstrating a strong belief in the positive potential of waste reduction. Participants also recognized the global implications of food waste, with a mean of 4.09 (SD = 1.082) for the item about food waste in their country impacting people in other countries. The awareness of environmental and health consequences was also notable, with mean scores around 3.71-3.65, indicating a comprehensive understanding of food waste's multifaceted impacts.

Across all four constructs which are (INT), (PN), AR), and (AC), the data consistently shows mean scores between 3.67 and 4.23. The standard deviations range from 0.899 to 1.234, demonstrating moderate heterogeneity in responses. Based on the findings, it shows a robust and uniform disposition towards the reduction of food waste.

Table 2: Descriptive Analysis for (INT), (PN), (AR), and (AC)

Num	Survey Items	N	Mean	Std Dev
(INT)				
1	Finish all the food ordered while eating	290	4.13	1.071
2	Order as much food as you can eat	290	3.67	0.907
3	Finish all the food on the plate while eating	290	3.89	1.033
4	Produce few leftovers while eat	290	4.11	1.113
5	Not to throw away food ordered	290	4.05	1.210
(PN)				
1	Feeling guilty throwing food away	290	4.12	1.154
2	Will be a better person if you don’t waste food	290	4.23	1.204
3	Being disturbed by the amount of food waste	290	3.89	1.056
4	Feeling obligated to reduce food waste thus alert while buying groceries	290	4.14	1.102
(AR)				
1	All individuals responsible for reducing food waste	290	3.94	1.034
2	All communities are responsible for reducing the amount of food	290	4.04	1.215

	waste			
3	Willing to reduce food waste while others are not do so	290	3.73	0.899
4	Responsible for negative consequences on food waste	290	4.20	1.234
5	Responsible for the consequences that happened to the environment and ecology caused by food waste	290	4.05	1.158
(AC)				
1	Reducing food waste gives an advantage to all stakeholders.		4.16	1.102
2	Reduce food waste to improve quality of life.		3.97	1.008
3	Reduce food waste to create a better environment		3.65	1.025
4	Food waste affects the environment and has a direct impact on health.		3.71	0.917
5	Food waste produced will impact those in other countries.		4.09	1.082

Note: Likert Scale (1: Strongly Disagree-5: Strongly Agree)

Pearson of Correlation Analysis: The Pearson Correlation method is employed to ascertain the direction and strength of a linear relationship between two variables (Sekaran & Bougie, 2016). Table 3 displays the correlation among (AC), (AR), PN), and (INT). Table 3 indicates a substantial positive connection (r = 0.793) between (AC) and (INT). Subsequently, a weak positive connection (r = 0.806) exists between (AR) and (INT). A substantial positive connection (r = 0.831) exists between (PN) and (INT). All possible associations established had a positive correlation.

Table 3: Pearson Correlation

		(INT)	(PN)	(AR)	(AC)
INT	Pearson Correlation	1	.831**	.806**	.793**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	290	290	290	290
PN	Pearson Correlation	.831**	1	.833**	.793**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	290	290	290	290
AR	Pearson Correlation	.806**	.833**	1	.844**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	290	290	290	290
AC	Pearson Correlation	.793**	.793**	.844**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	290	290	290	290

***Correlation is significant at the 0.01 level (2-tailed)*
** Correlation is significant at the 0.05 level (2-tailed)*

ANOVA Test: Table 4 illustrates the result of the ANOVA test that produces $F(3,286) = 285.126$ and $p < .000$, signifying substantial differences across group averages in (AC), (AR), and (PN). If the p-value is less than .000, then it offers compelling evidence against the null hypothesis. Utilizing a commonly accepted significance level of 0.05, the results refute the null hypothesis, demonstrating significant disparities in (AC), (AR), and (PN) among the groups. These findings highlight the importance of (AC), (AR), and (PN) in understanding group differences. Subsequent post-hoc analyses may be performed to discover particular group differences and investigate the ramifications of the findings.

Table 4: ANOVA Test Result

Model		Sum of Squares	df	F	Sig.
1	Regression	129.939	3	285.126	<.000b
	Residual	43.446	286		
	Total	173.385	298		

a. Dependent Variable: (INT).
Predictors: (Constant), (AC), (AR), (PN)

Dependent Variable's Coefficient: This study employed multiple linear regression analysis to identify the predictor factors that most effectively explain the dependent variable. As shown in Table 5, the beta value for (AC) is .252, which demonstrates the highest among the independent variables with the most significant unique contribution in this study. It was followed by the practices' beta value of .447. Conversely, attitude exhibited a diminished connection, with a beta value of .221. Moreover, all variables exhibited significant levels (sig.) below conventional thresholds, signifying their substantial contribution to predicting the dependent variable. (AC), (AR), and (PN) exert a favorable influence. The results indicate statistically significant associations between each independent variable (AC), (AR), (PN) and the dependent variable which is (INT). The corrected R^2 value of .749 signifies that knowledge, attitude, and behaviors collectively account for 7.49% of the variability in the dependent variable. This comprehensive model highlights the importance of these variables in comprehending the Intention to Reduce Food Waste (INT).

Table 5: Coefficient of Dependent Variable

Model		Unstandardized	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.527	.125		4.226	.000
	AC	.264	.061		4.350	.000
	AR	.202	.058		3.466	.001
	PN	.391	.049	.252 .221 .447	7.970	.000

a. Dependent Variable: (INT)

Discussion

The main objective of this study is to ascertain the impact of (AC) on the (PN) regarding the reduction of food waste in restaurants within Klang Valley. The assessment of (PN) reveals a mean score distribution ranging from 3.89 to 4.23, indicating that respondents' behaviors encompass the entire Likert scale, from strong disagreement to strong agreement. The highest mean score is 4.23 with a standard deviation of 1.204, was linked to statement number 2: "be better individual if don't waste food." In contrast, the lowest mean score was 3, corresponding to the statement, "disturbed by the amount of waste food," which yielded a mean score of 3.89 and a standard deviation of 1.056. (PN) are essential for mitigating food waste in restaurants as they serve as an internal moral compass, guiding consumer behavior. According to research, when people accept personal responsibility for their food waste, it activates their norms and motivates them to engage in environmentally responsible actions. Food preservation engenders a sense of duty that mitigates negative emotions such as remorse while enhancing positive feelings like pride and self-esteem. Consequently, more robust personal norms correlate with elevated objectives for minimizing food waste, becoming an essential element in promoting sustainable dining behaviors.

The multiple regression analysis aimed to identify the correlations between independent variables such as (AC), (AR), (PN), and (INT) at a restaurant in Klang Valley. The hypotheses were developed to determine the importance of these associations, and the study revealed interesting results. The results demonstrate a good correlation (R=0.749) between the independent and dependent variables. The R^2 value of 0.747 suggests that (AC), (AR), and (PN) jointly explain 74.9% of the variation in (INT) at restaurants in Klang Valley. The ANOVA test found significant differences in group means for (AC), (AR), (PN) (p-value < 0.000).

The coefficients analysis provides additional insights into the unique contributions of each independent variable. Notably, (AC) and (PN) demonstrated positive and significant contributions, with beta values of 0.252 and 0.447, respectively. These results suggest an increase in (AC) and (PN) to reduce food waste at restaurants in Klang Valley. (AR), on the other hand, showed a weaker and lower correlation (beta = 0.221), "reducing food waste will create a better environment for me and my family."

The Pearson Correlation analysis found significant correlations between (AR),(AC) and (PN) and the dependent variable which is (INT) at restaurants in Klang Valley. The research identified a substantial positive association ($r = 0.806$, $p < 0.000$) between (AR) and (INT), hence validating H1, which emphasizes the importance of individual accountability in mitigating food waste. Every endeavor to decrease food waste must include (AR) to ensure that individuals and communities understand their responsibility in this vital issue, creating a desire to reduce waste even when others do not (Hassan et al., 2023). Secondly, although a statistically significant correlation ($r = 0.806$, $p = 0.000$) exists between (AC) and (INT), the mean score of 3.65 for the statement "Reducing food waste will create a better environment" reflects a diminished level of Awareness of Consequences (AC) compared to other items. Individuals are motivated by avoiding wasting food, and the need to reduce food waste. This finding identifies an important area for intervention, as raising knowledge about the personal and social benefits of reducing food waste is key to cultivating a more sustainable attitude (Reuter et al., 2022). Finally, a significant positive connection ($r = 0.831$, $p < 0.000$) was found between (PN) and (INT), supporting the acceptability of H3. Overall, the mean scores imply that emotions of guilt associated with throwing food away, the desire to be a better individual by not wasting food, and the need to limit food waste all play critical roles in motivating individuals. This finding aligns with recent studies that indicate that personal norms are important in driving pro-environmental conduct (Parga et al., 2023). Multiple regression analysis confirmed these correlations, with an R^2 value of 0.747, suggesting that the independent variables explain 74.9% of the variation in INT. Notably, while (AC) and (PN) displayed substantial positive effects, (AR) showed a lesser association (beta = 0.221), indicating that interventions should also focus on improving personal accountability in this situation.

Furthermore, using a series of statistical tests, the gathered empirical data demonstrated that all assumptions were supported. The findings of this study contributed to a greater understanding of how to reduce food waste in Klang Valley eateries. Awareness of Consequences (AC), Ascription of Responsibility (AR), Personal Norm (PN), and Intention to Reduce Food Waste (INT) all had a good impact on food waste reduction in restaurants in the Klang Valley.

5. Conclusion and Recommendations

To conclude, the Norm Activation Model (NAM) was used to identify how customer behavior may be influenced to reduce food waste in restaurants in the Klang Vall. The study underscores the significance of awareness of consequences (AC), ascription of responsibility (AR), personal norms (PN), and intentionality in fostering pro-environmental behaviors. Theoretically, the NAM provides a thorough framework for comprehending the accountability and internalized norms that might influence behaviors to reduce food waste in dining environments. Practically, this study demonstrates that increasing consumer awareness and responsibility about the impacts of food waste to the environment and society can lead to more sustainable practices within restaurants. Stakeholders can effectively encourage consumers to reduce waste by activating personal norms through targeted NAM-based interventions. To translate these findings into actionable steps, stakeholders, particularly restaurant owners and policymakers, should consider implementing targeted interventions. For instance, training restaurant staff to subtly guide customer choices through behavioral nudges or providing incentives for portion control strategies could effectively minimize waste. Additionally, menu adjustments, such as offering customizable portion sizes or promoting food-sharing options, may further encourage sustainable consumption. This strategy can foster a more accountable and sustainable food service sector in the Klang Valley. The findings underscore the importance of personal norms in driving behavior and provide pragmatic ways for executing NAM-driven initiatives in restaurant operations.

This study, notwithstanding its contributions, has certain limitations. The emphasis on consumer attitudes and intentions in the Klang Valley may limit its applicability to other regions or cultural contexts. The cross-sectional approach and dependence on self-reported data may induce biases, complicating the establishment of causal links between variables. Future research may gain from longitudinal studies or experimental designs to more effectively document behavioral changes over time. To improve the reliability and relevance of findings, future research could overcome these constraints by combining ongoing research and larger geographic samples. Additionally, as this study focuses on a specific regional context, its findings may not be entirely generalizable; expanding the research to diverse cultural settings would enhance its applicability.

Going forward, food industry stakeholders are encouraged to collaborate with researchers and policymakers to implement NAM-awareness strategies effectively. Policymakers may leverage the findings of this study to formulate legislation that fosters sustainable consumption in restaurants, while industry stakeholders can utilize NAM to enhance corporate social responsibility and appeal to environmentally aware consumers. Policymakers and restaurant operators can drive meaningful behavioral change by fostering awareness of personal responsibility and reinforcing social norms around waste reduction. Integrating educational campaigns with structural interventions such as clear communication on food waste impact and strategic menu design can further strengthen consumer commitment to minimizing plate waste. Furthermore, the objective of minimizing food waste in Klang Valley restaurants can be achieved by integrating initiatives aimed at enhancing awareness, fostering accountability, and encouraging sustainable practices. This study successfully achieved its goal by illuminating the applicability and benefits of the norm activation model in addressing food waste. It has contributed to both theoretical developments in behavioral psychology and practical implications for sustainable consumption practices.

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Determinants of Secondary School Teachers' Purchase Intention Towards Ready-To-Eat Products in Dungun, Terengganu, Malaysia

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Abstract: The increasing demand for ready-to-eat products has become a significant trend, particularly among busy professionals like secondary school teachers in Dungun, who often face time constraints due to their professional commitments. While consumer behavior and purchase intentions in Malaysia have been widely studied, limited research specifically explores secondary school teachers' purchase intentions toward ready-to-eat products. Therefore, the purpose of this study is to explore the factors, particularly the most significant ones, that impact secondary school teachers' purchase intentions for ready-to-eat products in Dungun. The study gathered 205 respondents by distributing a printed and online survey via WhatsApp to secondary school teachers in Dungun. Then, the data was analyzed using SmartPLS 4 to determine the frequency of demographic profiles, descriptive analyses, measurements, and structural models. This study reveals that the three independent variables- convenience, price and brand are significantly influenced by purchase intention, and brand is the most significant factor. Understanding the factors that influence school teachers to purchase their RTE items is crucial, as this knowledge will enable them to design high-quality RTE products.

Keywords: *Ready-To-Eat, Convenience, Brand, Price, Purchase Intention, Teachers*

1. Introduction

According to Panduan Malaysia (2020), teachers hold a crucial position in every school, not only for their teaching duties but also for their responsibility in addressing issues related to discipline, attendance, and student behavior. Antin and Kiflee (2018) mentioned that a teacher's workload is divided into two categories, which are academic tasks and non-academic tasks. The academic tasks include preparing daily teaching records, checking notebooks, classroom assessment, homework, and more. Non-academic tasks, such as recording students' attendance, planning curricular activities, and participating in school programs, are typically completed in the afternoon after the school session concludes (Ahmad, 2022). Moreover, teachers in Malaysia also face long working hours. This is because, according to the Malaysian School Governance (2021), teachers' working hours will be 8 to 10 hours, which start from 7:30 to 3:30 pm, while curriculum day will start from 7:30 to 5:30 pm. This statement indicates that teachers in Malaysia require assistance in stress management to effectively perform their duties and function more effectively (Kaur et al., 2022). In addition, women who work as teachers in this case must make many sacrifices, including giving up one of the most important family duties, which is cooking (Rathee, 2018). Hence, they need convenience food that does not require the next step of the cooking process. According to Bassura et al. (2020), people require goods and services to support and ease their hectic lives, particularly due to their extended work hours. Therefore, to simplify their meal preparation, they typically purchase ready-to-eat (RTE) meals from shops or restaurants and pack them to take home (Rathee et al., 2018).

RTE products are prepared and consumed with the least amount of effort, time, and cooking knowledge (Imtiyaz et al., 2022). According to Selvarathinam (2020), RTE refers to food products made from animals or plants that require freezing, cooking, and processing before direct consumption. Busy lifestyles have led to a growing popularity of instant or simple-to-prepare snacks and ready meals, particularly among working-class individuals, teenagers, hostel residents, and bachelors. (Mordor Intelligence, 2021). There is a wide range of RTE products available in the Malaysian market. Examples of domestically made convenience products include ready-to-eat meals, spiced fish and chicken, ethnic or traditional cuisine, instant powdered juice, and retort pouch products (Malaysian Investment Development Authority, 2019). In the global context, the market for ready-to-eat food is predicted to reach a total value of USD 1,80,000 million in 2022 and is anticipated to grow rapidly, registering a compound annual growth rate (CAGR) of 7.7% and reaching USD 3,77,945.81 million by the year 2032 (Future Market Insight, 2022). Meanwhile, Baskaran et al. (2017) report that the ready-to-eat food market in Malaysia is expanding and currently contributes significantly to the country's food industry's GDP. In addition, MIDA (2019) identified ready-to-eat products as one of the three new investment opportunities in the country, alongside healthy food, functional food, and food ingredients. MIDA (2019) also highlighted that Malaysia's current population of 33.6 million has a purchasing power (per capita income) exceeding RM44,686, and lifestyle changes have increased the demand for convenience and healthy foods.

The importance of RTE food is growing in the modern food industry, and as a result, a lot of literature has been published about ready-to-eat products (Kaviyar, 2023; Mordor Intelligence, 2021; Meshram et al, 2020; Petal, 2019). The increasing demand for ready-to-eat products has become a significant trend, particularly among busy professionals like secondary school teachers in Dungun, who often face time constraints due to their professional commitments (Muhammad et al 2022). While consumer behavior and purchase intentions in Malaysia have been widely studied, limited research specifically explores secondary school teachers' purchase intentions toward ready-to-eat products. Factors such as perceived convenience, health considerations, price sensitivity, brand trust, and marketing strategies are likely to play a crucial role in influencing their purchasing decisions (Zainol et. al, 2017). Teachers may prioritize convenience and quick meal solutions while also considering the nutritional value and affordability of these products. However, existing studies on teachers' purchasing behaviors focus more on general online shopping rather than the specific context of ready-to-eat products. This gap highlights the need for targeted research to understand the unique factors driving this demographic's purchase intentions. For this reason, this study is being conducted to fill the research gap by investigating the most significant factors that influence purchase intention towards ready-to-eat products among secondary school teachers in Dungun. This study will undoubtedly contribute to valuable findings that could provide insights for marketers and product developers to better cater to the needs of secondary school teachers in Dungun.

2. Literature Review

School teachers make up one of Malaysia's most literate employment forces, with a total of 415,850 instructors as of 2020 (Ministry of Education Malaysia, 2020). This indicates a career prevalence of 2.6% within the country's 15.7 million labor force. Malaysia's teaching population is diversified, reflecting the country's multiethnic mix, which includes Malays, Chinese, Indians, and others. Mainly local teachers have a bachelor's degree in education, yet they still have to combine their teaching duties with basic administrative chores. Nonetheless, the growing demands of administrative tasks in schools have placed many teachers in demanding working environments (Nwoko et. al., 2023). Because of their busy work schedules and limited cooking time, most teachers opt for RTE products. Finding studies on RTE products among school teachers is a challenge in the field. Most RTE studies primarily focus on consumers. Recent research on consumer purchase intentions, particularly regarding ready-to-eat food products, continues to leverage the Theory of Planned Behavior (TPB) while incorporating additional factors such as brand perception, convenience, and price sensitivity (Sobaih et al, 2023). Brand trust significantly influences consumers' attitudes, as positive associations with a brand can enhance the likelihood of purchase intentions. Consumers often prefer brands that are perceived as reliable and of high quality, which aligns with their values and lifestyle choices (Meshram et al, 2020). Convenience is another critical factor; the TPB suggests that when consumers perceive ready-to-eat products as time-saving and easy to prepare, their intention to purchase increases. This is especially relevant for busy individuals who prioritize efficiency in meal preparation. Furthermore, price sensitivity plays a vital role in shaping purchase intentions; studies indicate that consumers of ready-to-eat foods tend to be less price-sensitive compared to those purchasing traditional food items, reflecting a willingness to pay more for the convenience and time savings these products offer (Nardi et. al., 2019). Thus, integrating these elements into the TPB framework provides a more comprehensive understanding of the factors driving purchase intentions in the ready-to-eat food market.

Based on the literature review, several factors influenced the choice of RTE products in previous studies. RTE refers to convenience food, which is typically a complete meal that has been prepared in advance commercially and needs only minimal additional preparation on the part of the consumer (Srinivasan & Kulkarni, 2019). Sen et al. (2021) found that convenience indicates a consumer's preference for energy and time savings in food preparation, as it often requires a significant amount of time. Convenience allows consumers to save time on preparation, as it eliminates the need for additional ingredients and subsequent cooking (Horning et al., 2017). Additionally, a study by Rathee et al. (2018) revealed that women who work evaluate convenience as the most preferred product. Sen et al. (2021) clarified that the rise in household incomes and activity among women with longer workdays would encourage them to consume frozen food products. Hence, RTE food has been considered a unique product offering due to its perceived convenience benefits, which include the elimination or reduction of meal preparation stress, especially among urban people who lead hectic lifestyles (Azman et al., 2023). Agreeing with this statement, Basurra et al. (2020) explained that customers need goods since they work longer hours, spend more time in traffic, and want to make the most of their free time.

Besides convenience, brand image is another factor that refers to the beliefs and perceptions held by consumers, as reflected in the relationships that are formed in their memory (Mulyandi & Tjandra, 2023). According to Genoneva and Samukti (2020), a product's brand image represents how consumers view it generally and is shaped by information and previous experiences with it. Therefore, when consumers have experience with a particular brand, they will have the confidence to purchase or repurchase. Additionally, a branded food product can persuade people to be willing to pay, even if the product is priced at a premium. This is because, as Safeer et al. (2021) explain, consumers in this modern era demand authentic brands and are willing to pay for them. In addition, brands define consumer status. According to Shahid et al. (2017), consumers perceive owning a branded food product as a sign of their elevated status. Therefore, brand awareness can influence purchase intention (Janoskova & Kral, 2020).

Next, the perception of food prices varies depending on whether consumers are low- or high-income. Suvadarshini and Mishra (2021) assert that higher prices are perceived as a barrier to purchasing decisions, particularly for those with lower incomes. Price controls purchasing behavior by limiting consumers based on their income (Suvadarshini & Mishra, 2021). Therefore, price is the most crucial factor in determining whether or not to purchase a product (Zhao et al, 2021). Besides, according to Othman et al. (2022), prices inform customers about the product's quality level. Hence, it is apparent that price has a big impact on customer satisfaction, and service providers should focus on product pricing to attract customers, particularly price-sensitive customers (Othman et al., 2022). Other than that, Friani, et. al. (2018) revealed that after reaching the desired degree of customer satisfaction, price appropriateness may increase customer pleasure, allowing customers to continue to trust and make repeat purchases. Meanwhile, Kee et al. (2022) asserted that buyers typically seek low prices to maximize their purchasing power, while sellers, conversely, aim for high prices to generate substantial profits. Hence, according to Li et al. (2022), when consumer perceptions and attitudes align with their expectations, it can foster purchase intention, which is defined as the deliberate effort by consumers to select specific goods or services. Wong et al. (2018) elaborate on this by stating that consumer behavior—shaped by preferences, endorsements, and product features—plays a crucial role in purchasing decisions.

3. Research Methodology

This study is quantitative and uses primary data; the researchers distributed self-administered questionnaires to the targeted participants, who are secondary school teachers in Dungun. In terms of research design, this study has employed both descriptive and inferential statistics to provide a comprehensive analysis of the data, using descriptive statistics to summarize and characterize the sample's demographics and purchase intentions, while inferential statistics are utilized to draw conclusions and make generalizations about the broader population of secondary school teachers in Dungun based on the observed data (Jalolov, 2024). This study operates in a non-contrived setting, and the time horizon is cross-sectional. The reason for this is that researchers collect data from each participant only once. This gives researchers an advantage as it allows them to compare numerous variables at once. For this study, the unit of analysis is the individual, specifically secondary school teachers. This is because the study is focused on the factors that influence the intention to purchase RTE products among secondary school teachers in Dungun. Mumtaz et al. (2020) stated that choosing an appropriate sample size is essential to drawing rational conclusions from research findings. Based on data from My Schoolchildren (2020), there are 437 secondary school teachers in Dungun. Hence, the researchers determined the sample size using the Krejcie and Morgan Table (1970). Using the population size of N = 440 from the Krejcie and Morgan Table (1970), the study determined the sample size to be N = 205.

For data analysis, this study employs partial least squares (PLS) or structural equation modelling (SEM). SEM is a second-generation multivariate analysis method that allows researchers to estimate complex relationships between multiple dependent and independent variables while stimulating them at the same time (Hair et al., 2022). Many researchers have been applying this technique over the past decade, and its use is increasing. PLS-SEM makes it quicker for researchers to determine the way independent and dependent constructs are related to each other. In addition, PLS-SEM provides plenty of flexibility in handling different measurement model setups; for example, PLS-SEM can handle reflective and formative measurement methods without additional requirements and constraints (Hair et al., 2022).

4. Findings

Demographic results as shown in Table 1.0 show that the gender distribution for female respondents was higher than for male respondents. Among 205, the majority were female (67.8%, N=139) and the rest were male (32.2%, N=66). In terms of age, most respondents were in the age range of 41 to 50 years old (38.5%, N=79) and 31 to 40 years old (23.9%, N=49). Both the age group of 21–30 and those above 51 accounted for 18.5%, N = 38. The remainder was the range of ages below 20 years old (0.5%, N=1). For race, most respondents were Malay (95.1%, N=195), followed by Chinese (3.4%, N=7), Indian (1.0%, N=2), and the remainder were other races (0.5%, N=1). As for status, respondents with married status were the majority: 77.1% (N = 158), while respondents with single and divorced status were 19.0% (N = 39) and 3.9% (N = 8), respectively. Lastly, for income, most respondents had an income above RM4001 (65.4%, N=134), followed by RM3001-RM4000 (17.6%, N=36), RM2001-RM3000 (10.2%, N=21), RM1001-RM2000 (6.3%, N=13), and below RM1000 was the least (0.5%, N=1).

Table 1: Demographic Profile

Variable	Category	Percentage (%)
Gender	Female	67.8
	Male	32.2
Age	Below 20 years old	0.5
	21-30 years old	18.5
	31-40 years old	23.9
	41-50 years old	38.5
	Over 51 years old	18.5
Race	Malay	95.1
	Chinese	3.4
	Indian	1.0
	Others	0.5
Status	Single	19.0
	Married	77.1
	Divorced	3.9
Income	Below RM1000	0.5
	RM1001-RM2000	6.3
	RM2001-RM3000	10.2
	RM3001-RM4000	17.6
	Above RM4001	65.4

In terms of reliability and convergent validity, a composite reliability (CR) score exceeding 0.70 signifies that all the constructs exhibited strong internal reliability (Hair et al., 2017). Meanwhile, the average variance extracted (AVE) from the measurement model exceeded 0.50, with the lowest score of 0.502 (purchase intention) and the highest score of 0.622 (brand). This is an acceptable result since the acceptable value of average variance extracted (AVE) is at least 0.50, according to Hair et al. (2017).

Table 2: Reliability and Convergent Validity Analysis

Variables	Cronbach's Alpha	Composite Reliability (CR)	AVE
Brand	0.848	0.891	0.622
Convenience	0.790	0.857	0.551
Price	0.826	0.878	0.590
Purchase Intention	0.748	0.833	0.502

Table 3: Discriminant Validity HTMT

Variables	Brand	Convenience	Price	Purchase Intention
Brand				
Convenience	0.544			
Price	0.552	0.637		
Purchase Intention	0.904	0.720	0.699	

For discriminant validity purposes, the table above summarizes the HTMT analysis. According to Hair et al. (2017), an excellent discriminant validity test for the PLS-SEM reflective model is the HTMT analysis. Consequently, a few correlations achieved a score of less than 0.85, demonstrating concept discriminant validity (Hair et al., 2017). Thus, several indicators were implemented to assess the statistical significance of the path coefficient. The statistically significant path association has been identified at the 0.05 significance level. When the p-value is 0.05 or below, the result is considered significant. If it is greater than 0.05, the result is likely insignificant and should be ignored. Plus, t-values above 1.96 for a two-tailed test and 1.645 for a one-tailed test show that the relationship is important because those are the values needed for a significance level of 5% (± = 0.05).

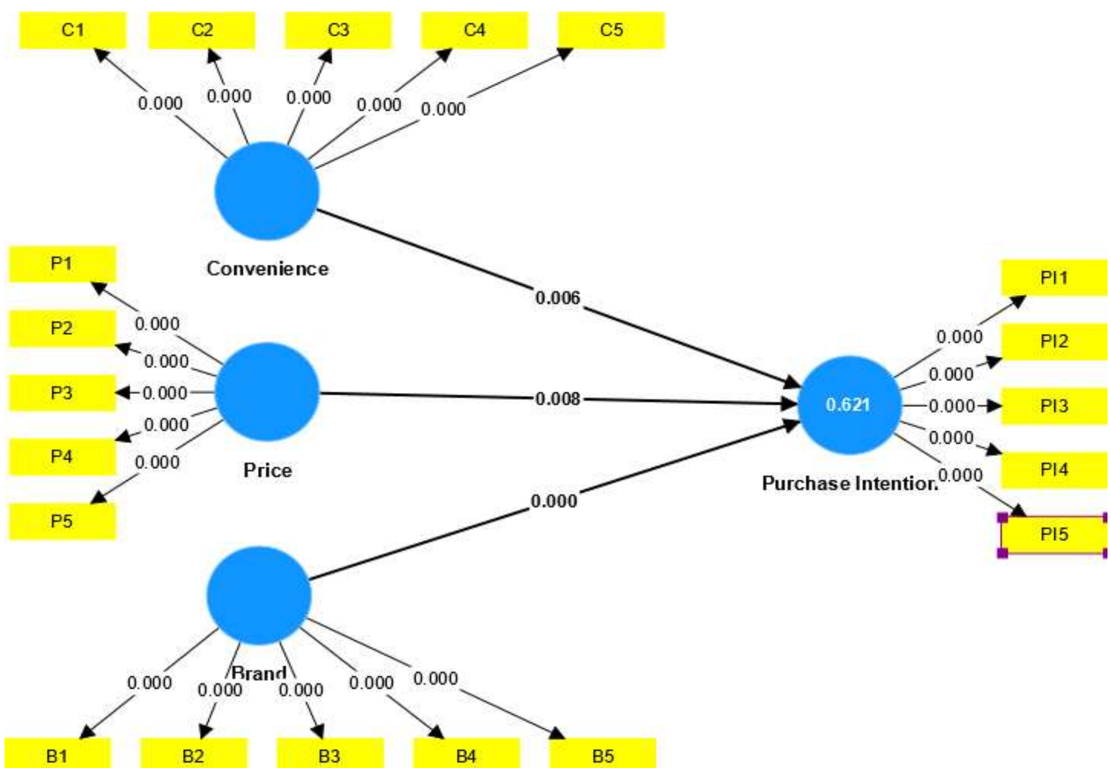

Table 4: Result Path Analysis

Path Analysis	Original (O)	STDEV	T statistic	P values
Brand -> Purchase Intention	0.532	0.527	0.062	0.000
Convenience -> Purchase Intention	0.227	0.237	0.083	0.006
Price -> Purchase Intention	0.193	0.190	0.073	0.008
Path Analysis			**Result**	
Brand -> Purchase Intention			Supported	
Convenience -> Purchase Intention			Supported	
Price -> Purchase Intention			Supported	

Based on the analysis, brand was found to be statistically significant towards purchase intention (B=0.532, p-value 0.000). When the brand increased by 1 standard deviation, customer purchase intention increased by 0.532. Therefore, the hypothesis that there is a positive relationship between brand and purchase intention is supported. Furthermore, the results show a significant correlation between convenience and purchase intention (B=0.227, p-value 0.006). Thus, the next hypothesis, which is that there is a positive relationship between convenience and purchase intention, is supported. When convenience is increased by 1 standard deviation, customers' purchase intentions increase by 0.227. Moreover, the correlation between price and purchase intention was statistically significant (B=0.193, p-value 0.008). So, the hypothesis that there is a positive relationship between price and purchase intention is supported. When the price is increased by 1 standard deviation, customers' purchase intentions increase by 0.193.

Discussion

Based on the analysis using Partial Least Squares (PLS), factors influencing secondary school teachers' purchase intention towards ready-to-eat products in Dungun were significant towards the three variables, which are convenience, price, and brand. The hypothesis, that there is a positive relationship between convenience and purchase intention, is supported where it shows the result (B = 0.227, p-value 0.006). This indicates convenience is the important factor that influences consumers' purchase intentions toward ready-to-eat products. Imtiyaz et al. (2022) found that due to time constraints resulting from long and unpredictable work hours, demanding work schedules, organizational responsibilities, and preferences for leisure activities, employed consumers tended to prefer convenience food products. According to Malaysian School Governance (2021), teachers in Malaysia also encounter extended working hours, typically ranging from 8 to 10 hours per day. As a result of these long working hours, teachers tend to opt for quick food products and reduce their cooking preparation time, as they lack the necessary time (Kaviyar, 2023). In addition, the demographic analysis reveals that 67.8% of the teachers in Dungun are women, while 32.2% are men. It indicates that most of the teachers in Dungun are women. According to Rathee et al. (2018), working women contribute to increasing the preference for ready-to-eat products because they are convenient and help them to serve quick meals for their families. Therefore, it is evident that in the modern era, ready-to-eat food products play a crucial role in satisfying the lifestyles of modern working women (Rathee et al., 2018). Hence, ready-to-eat products have altered people's lifestyles and given them a selection of high-quality, innovative convenient foods that save their time and energy.

Brand is also an important factor that influences consumers' purchases of ready-to-eat products. The structure model analysis revealed that the hypothesis that there is a positive relationship between brand and purchase intention is supported since the result was B = 0.532, p-value = 0.000. According to Petal (2019), brands influence purchase intention by educating consumers about product information and forming associations in their minds that influence the purchasing process. However, Safeer et al. (2021) discovered that the perceived brand is critical in this modern era due to the consumer demand for authentic brands and willingness to pay. Therefore, based on the analysis, respondents stated that they were very concerned about the quality of the product and brand familiarity. Brand familiarity gives consumers trust and confidence to use the specific brand (Ushiama et al., 2021). In addition, unfamiliar food brands are encountered for the first time, and consumers are typically somewhat anxious to put the food in their mouths (Ushiama et al., 2021). Thus, strong brand identity can influence consumers to have purchase intentions.

Moreover, price is one of the factors that motivates and drives consumers toward ready-to-eat food products (Imtiyaz et al., 2022). Thus, the hypothesis that there is a positive relationship between price and purchase intention is supported by the result (B=0.193, p-value 0.008). Imtiyaz et al. (2022) stated that competitive prices, promotional offers, and excellent value for money were the primary elements that positively influenced convenience food purchase intention and consumption. However, Suvadarshini and Mishra (2021) noted that the ability of a price to limit consumers based on their income led to its use in controlling purchasing behavior. Therefore, based on the analysis, the majority of teachers' income in Dungun is above RM 4001. This suggests that professional occupations like education do not face significant financial challenges when it comes to spending. According to the Department of Statistics in Malaysia (DOSM), an initial salary of RM4000 is considered a reasonably good salary, given that the basic minimum wage for teachers is RM2200 without allowance, and their salary is determined by their grade (Ministry of Education Malaysia, 2023). Finally, the respondents found that the most significant factor influencing their intention to purchase ready-to-eat products was the brand. This is because consumers hold both positive and negative perceptions about the quality of products associated with a given brand. According to Jia et al. (2022), brand awareness influences a consumer's choice of a product, and they always think about it before making a purchase. Therefore, consumers are more likely to choose sustainable brands when purchasing ready-to-eat products.

5. Conclusion

The purpose of this study is to determine the attributes that influence secondary school teachers' purchasing intentions for ready-to-eat items in Dungun. The findings support all hypotheses, with brand being the most significant factor impacting purchase intention for ready-to-eat products among secondary school teachers in Dungun. This study has significant implications for both theoretical frameworks and practical applications. Theoretically, by integrating factors such as brand perception, convenience, and price sensitivity into the TPB framework, the study enhances our understanding of how these elements interact to influence purchase intentions specifically within the context of ready-to-eat foods. This nuanced approach allows for a more comprehensive model that can be applied to similar consumer behavior studies in emerging markets, highlighting the importance of cultural and contextual factors in shaping purchasing decisions. Practically, the findings from this study can inform marketing strategies targeted at secondary school teachers; a demographic that often faces time constraints due to their professional responsibilities. Understanding that convenience and brand trust significantly impact their purchasing decisions can guide food manufacturers and retailers in developing products that cater to these needs. Additionally, recognizing the role of price sensitivity can help businesses optimize pricing strategies to enhance attractiveness while maintaining profitability. By aligning product offerings with the specific preferences and behaviors of this consumer segment, marketers can effectively increase engagement and sales in the ready-to-eat food category, ultimately contributing to better market penetration in Dungun and similar regions. This study focused solely on secondary school teachers in Dungun; hence, the results may be limited to the teachers in Dungun only. For future research, researchers need to concentrate on other targeted demographics in Malaysia, as other variables may influence purchase intention for ready-to-eat items.

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Assessing the Impact of Social Media Marketing Factors on Restaurant Customers' Purchase Intentions in Negeri Sembilan, Malaysia

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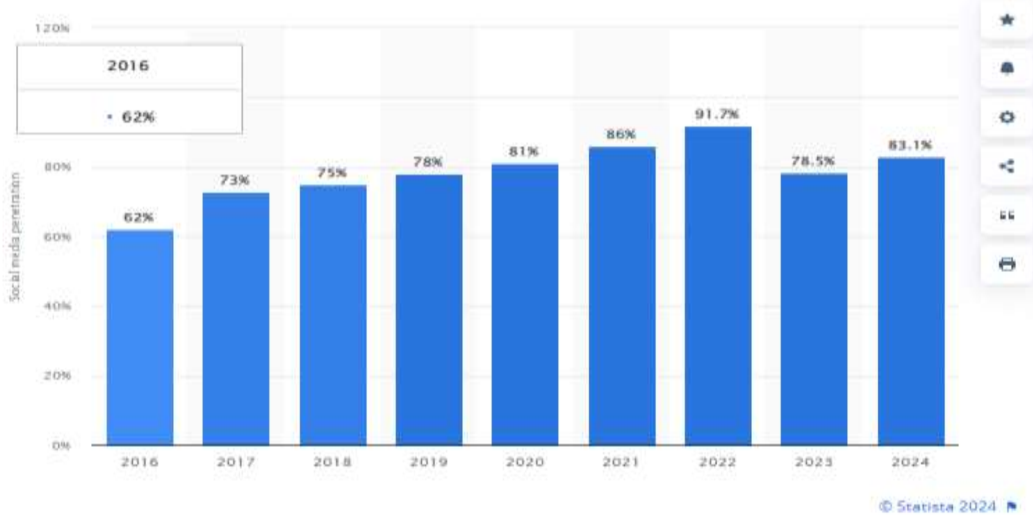
Abstract: In recent years, digital platforms, particularly social media, have transformed how customers discover and choose dining options. These platforms significantly influence purchase decisions, marking a shift in how businesses in the food and beverage sector engage with their audiences. Hence, this study aims to assess the impact of social media marketing on the purchase intentions of restaurant customers in Negeri Sembilan. It focuses on three key factors, which are menu visuals, advertising, and electronic word-of-mouth (e-WOM). A cross-sectional study has been conducted using purposive sampling, targeting customers with dining experiences at restaurants in Negeri Sembilan who are familiar with social media. A total of 342 usable responses have been collected through an online survey, ready for analysis conducted using SPSS Version 26 to provide meaningful results addressing the research questions of this study. The findings from the hypotheses show that key factors like advertising, menu visuals, and e-WOM have a significant, positive effect on customer purchase intentions. e-WOM and advertising are significant, with e-WOM being the most impactful factor. However, menu visuals have a weaker impact. Descriptively, the respondents have also ranked e-WOM and advertising as their top-priority factors towards their purchase intentions. This study advocates the significance of efficient social media strategies in boosting consumer interactions and influencing buying intentions, offering restaurateurs and marketers insightful information. Hence, expanding the research to include longitudinal studies would provide deeper insights into changing consumer behaviours over time.

Keywords: *Social-Media Marketing, Advertising, e-WOM, Menu Visual, Purchase Intentions*

1 Introduction

In today's digital world, marketers, influencers, and businesses need to understand how their audiences interact with online platforms. In the food and beverage industry, social media and online ordering are powerful tools to reach and influence customers. Restaurant managers can leverage this knowledge to develop effective strategies, utilising the digital landscape to enhance customer engagement and boost purchase intentions (Kumar et al., 2020). As displayed in Figure 1 below, as of January 2024, 83.1% of Malaysians were active social media users, increasing from 78.5% in 2023, with Facebook leading the social media platforms (Statista, 2024). Furthermore, social media nowadays affects individuals' emotions and behaviours, often causing mood swings based on their online experiences. Many Malaysians feel that social media influences their happiness, and they find it hard to stop using it (Siddharta, 2024). This, consequently, echoes from consumer-behaviour shifts according to changing trends and preferences, which vary across generations. As social media platforms evolve, so do the patterns of consumption, highlighting the impact of digital trends on purchase decisions.

Figure 1: Active Social Media Users Among Malaysians (September 2016- January 2024), Statista 2024



The food and beverage (F&B) industry in Malaysia plays a significant role in the nation's socio-economic development and cultural identity. As a hub of multicultural influences, Malaysia's F&B sector offers a wide array of cuisines, ranging from traditional Malay dishes to Chinese, Indian, and other fusion flavours. This diversity not only attracts domestic and international tourists but also positions the industry as a critical economic driver. In 2023, Malaysia's F&B industry was valued at over RM220 billion, with projections indicating continued growth due to rising consumer demands (Statista, 2023). Within this national landscape, Negeri Sembilan stands out for its unique culinary heritage rooted in Minangkabau traditions. This uniqueness attracts both local and international tourists, making the F&B industry a vital contributor to Negeri Sembilan's tourism economy (Wong et al., 2024). While preserving this heritage, Negeri Sembilan's F&B sector is embracing modernity through the adoption of digital marketing strategies. As a result, restaurants are increasingly leveraging social media to enhance visibility, attract customers, and compete in an evolving marketplace (Mohammed et al., 2024).

On the other hand, while social media offers an abundance of advantages, it can also expose restaurants to the harsh glare of negative publicity. Unfortunately, uncontrolled online platforms have allowed individuals to freely post damaging reviews, potentially inflicting significant reputational damage and impacting business stability. Conversely, users themselves may be susceptible to manipulation by deceitful comments planted by competitors. This highlights the complex dynamic of online reputation, of which the positive effects of relative popularity can be dampened by the presence of unfavourable fake reviews, particularly for independent eateries compared to chain restaurants (Li et al., 2023).

However, social media holds vast potential for restaurants, harnessing the persuasive power of online buzz and evaluations. In today's digital landscape, restaurants can leverage social media to cultivate devoted followings and reap numerous benefits. Even though its influence can be a double-edged sword, social media's positive impact is undeniable, particularly within the experience-driven restaurant industry. Kumar et al. (2020) have pointed out that online reviews will increasingly influence restaurant revenues and consumer choices. The same applies, but women are more likely to engage the power of word-of-mouth, and the host of platforms only amplifies its experiential qualities. Social media can be viewed as the echo chamber of WOM, amplifying diners' positive notes and attracting new loyal patrons. Moreover, as suggested by Kumar et al. (2020), the Internet is the primary source of information that potential customers refer to. On top of that, aligned with the assumption introduced by Li et al. (2023), clients follow their peers' behaviours. Therefore, stirring the positive buzz on social media can serve as a dynamic retention tool. Thus, restaurants can use the platforms to regain control, incentivise repeated visits, and encourage constructive dialogues.

This study seeks to assess how social media marketing affects the purchase intentions of customers who have dined at restaurants in Negeri Sembilan, considering the region's distinctive culinary and cultural heritage. Moreover, it aims to identify how key factors, such as menu visuals, advertising, and electronic word-of-mouth (e-WOM) influence these intentions. This study focuses on advertising, menu visuals, and e-WOM as the key social-media marketing factors due to their established influence on customer behaviours, identified gaps in their combined exploration within the restaurant industry, and their practical relevance for restaurants in Negeri Sembilan. These factors have been chosen based on previous studies and their alignment with the study's goals to offer useful insights for local restaurant managers. Hence, the study objectives are stated as follows:

RO1: To examine the relationship between social media marketing and restaurant customers' purchase intentions in Negeri Sembilan.

RO2: To investigate the impact of menu visuals, advertising, and electronic word-of-mouth (e-WOM) on restaurant customers' purchase intentions in the food and beverage industry in Negeri Sembilan.

2. Literature Review

In understanding consumer purchase intentions, this study has highlighted the Theory of Planned Behaviour (TPB) introduced by Ajzen (1991), which provides a useful framework as a preliminary concept. This theory has explained that a behaviour is influenced by intention shaped by three main factors, which are attitudes, subjective norms, and perceived behavioural control. To make it clear, attitude refers to an individual's positive or negative evaluation of a behaviour, such as customer intention to purchase. Subjective norms, on the other hand, reflect the influence of social pressures or expectations, for instance, the impact of e-WOM from peers or online reviews. Meanwhile, perceived behavioural control relates to the ease or difficulty of performing a behaviour, such as how easily one can access information through social media. As far as this study is concerned, this theory has helped to explain how social media marketing elements like advertising and e-WOM influence consumers' attitudes and their purchase intentions in food and beverage establishments. Moreover, it also fits well with how digital platforms are changing consumer behaviour, particularly in the food and beverage sector, where decisions are increasingly influenced by online interactions and marketing efforts.

Consumer Purchase Intentions: Purchase intentions from consumers indicate their propensity to make a purchase and are a good indicator of their actual purchasing behaviour. Businesses must comprehend this idea since it is influenced by marketing tactics, brand perceptions, and personal traits. Qadri (2023) has highlighted the importance of using purchase-intention data to target marketing campaigns. Furthermore, Nguyen et al. (2022) have also emphasised how advertising can increase buying intention by giving consumers the knowledge they need to make wise selections. Therefore, it is evident that understanding customer purchase intentions is essential for creating marketing tactics that work with target demographics and increase sales in the restaurant industry.

Social-Media Marketing: Engaging customers via social-media marketing products includes content creation, community engagement, and specific social-media advertising, such as Facebook and Instagram. According to Buffer (2019), having a business agency present on social media marketing helps clients interact more openly and see the business. Social media marketing tactics are especially successful in the hotel sector because they increase customer loyalty and engagement, two factors that have long been highlighted in marketing literature (Kumar et al., 2020). Social media's dynamic nature helps businesses to adapt quickly according to customer behaviour, making it an integral element of modern-day advertising strategies for restaurants that may be seeking to appeal to more customers and retain patronage.

Social-Media Advertising: Advertising is a powerful tool that allows brands to reach targeted audiences through various platforms. According to Lopes et al. (2023), promoting and advertising a brand on social media can enhance the trustworthiness of its marketing messages, making them sound and look more convincing and credible. Furthermore, research has indicated that the effectiveness of social media advertisement hinges on several factors, including creativity, emotional appeal, and the use of endorsements. A study has found that these elements significantly influence consumer perceptions and purchase intentions (Sriram et al., 2021). These critical marketing elements impact how customers perceive products and decide on the restaurant industry's dos and don'ts of what to buy. Good advertising stimulates consumers, which is why The Economic Times (2019) has noted that it boosts awareness and informed purchases. While each can deliver personalised content or messaging, targeted advertising has the potential to alter behaviour dramatically. In addition, social media also provides businesses with platforms to engage directly with their customers, boost brand visibility,

shape consumer attitudes, collect valuable feedback, enhance products and services, and drive sales growth. In other words, it serves as a dynamic tool for fostering stronger customer relationships and ensuring that marketing efforts are both impactful and responsive to consumer needs (Lal et al., 2020). The way restaurants contact potential consumers has changed a lot due to digital advertising methods. These include paid media strategies like social ads that allow for optimised spending to get the most return both in reach and engagement, purchase intentions. Therefore, the hypothesis is formulated as follows:
***H1:** Social media advertising has a significant, positive effect on restaurant customers' purchase intentions.*

Electronic Word-of-Mouth (e-WOM): Electronic word-of-mouth (e-WOM) plays a significant role in consumer decision-making, especially with restaurant establishments. This comprises user-generated content, social media recommendations, and online reviews – all necessary sources of information for potential customers. Previously, Kumar et al. (2020) have stated that e-WOM plays a significant role in consumer purchase decisions, as it is claimed, because peer word-of-mouth is often considered more trustworthy than traditional advertising. Putri et. al (2022) have also suggested that social-media marketing and electronic word-of-mouth (e-WOM) significantly influence consumers' purchase intentions in the food and beverage sector, highlighting the importance of interactive content and shared experiences in driving purchase decisions. As e-WOM affects consumer perceptions and creates involvement, this validity is crucial. Park et al. (2021) have been very explicit about the importance of vision inputs in electronic word-of-mouth (e-WOM), suggesting that visual reviews may trigger enhanced emotional responses and willingness to buy. This is because customers are typically drawn in by the captivating story that is created by the fusion of textual and visual elements. All things considered, e-WOM is an effective marketing technique that eateries may use to strengthen their brand visibility and influence consumer choices in a competitive market. Therefore, the hypothesis is formulated as follows:
***H2:** Electronic word-of-mouth (e-WOM) on social media has a significant, positive effect on restaurant customers' purchase intentions.*

Menu Visual: The menu visual functionality of anything like the menu itself plays a significant part in consumer behaviour, especially in the restaurant industry. A good design with clear, high-quality images of high quality at the highest resolution is helpful. According to Park et al. (2021), all kinds of food images set forth information because the picture superiority effect claims this fact. Their study has found that videos can vastly outperform texts, capturing consumer attention and generating emotional responses. Apart from that, Brewer and Sebby (2021) have also noted that well-designed menus not only provide efficient access to information that alerts customers but also encourage purchases and enhance profitability for the establishment. No wonder the emotional snapshot of food images as potent reminders for appetite arousal is a powerful marketing tool. In addition, McCook (2023) has also asserted that effective utilisation of visuals on social media can significantly enhance how restaurant brands leverage these platforms to boost sales and improve customer service, ultimately influencing purchase intentions. The strategic placement of menu photos is a necessity for restaurants looking to obtain new and repeat business in a competitive market. Therefore, the hypothesis is formulated as follows:
***H3:** Menu visuals on social media have a significant, positive effect on restaurant customers' purchase intentions.*

3. Methodology

This study has used a quantitative, cross-sectional approach to assess how social media marketing has an impact towards restaurant customers' purchase intentions in Negeri Sembilan. To recap, this study has focused on three main factors, which are menu visuals, advertising, and electronic word-of-mouth (e-WOM). This study has used purposive sampling, suggested by Etikan et al. (2016), to select customers who are familiar with social media and with restaurant dining experience in Negeri Sembilan. Instead of relying on the comprehensive sampling frame, the respondents have been chosen based on specific eligibility criteria to align with the study's objectives. Thus, a total of 342 valid responses have been obtained through an online survey, guided by recommendations for quantitative studies, by which 300 to 400 respondents have been typically suitable for non-probability sampling to ensure reliable results (Krejcie & Morgan, 1970). To accommodate a diverse audience, the survey has been available in both *Bahasa Melayu* and English. The questionnaire has been structured into six sections, which are the screening section to validate the respondents' eligibility, demographics, menu visuals, advertising, e-WOM, and purchase intentions, with responses measured on a 5-

point Likert scale. Several data analyses involved have been the descriptive statistics and correlation analysis with the use of SPSS Version 26 to examine the relationships between the variables. The findings are presented in tables and graphs, aiming to indicate clear results that answer the objectives of the study.

4. Findings

Table 1: Demographic Profiles

	Frequency (F)	Percentage (%)
Gender		
Male	156	45.6
Female	186	54.4
Age		
18-22 years old	26	7.6
23-27 years old	92	26.9
28-32 years old	33	9.7
33-37 years old	130	38.1
38 years old and above	61	17.9
Monthly Income (RM)		
0-1,499	30	8.8
1,500-2,499	39	11.5
3,000-4,499	270	79
4,500 and above	3	0.9
tion		
Diploma	96	28.1
Undergraduate (Bachelor's Degree)	149	43.6
Postgraduate (Master's Degree/PhD)	65	19.0
Others	32	9.4
me Spent on Social Media Sites per Week		
3 hours	197	57.6
4-6 hours	96	28.1
7-9 hours	20	5.9
10 hours and above	29	8.8

The demographic profiles displayed in Table 1 above are presented according to their genders, ages, monthly incomes (RM), education levels, and total hours spent on social media sites per week. Based on the frequency analysis, the total number of females is higher than males by 54.4% (186 females) and 45.6% (156 males) out of 342 respondents. The highest percentage of the respondents for age is recorded by the age range between 33 and 37 years old, representing 38.1% (130 respondents), followed by the age range between 23 to 27 years old and 38 years old and above with 26.9%, represented by 92 respondents, and 17.9%, represented by 130 respondents, respectively. Meanwhile, the respondents aged between 18 to 22 years old and 28 to 32 years old remain the lowest with only 7.6% (26 respondents) and 9.7% (33 respondents), respectively. The highest monthly income (RM) is recorded by several respondents who earn an income between RM3,000 and RM4,499, represented by 79% (270 respondents), followed by an income between RM1,500 and RM2,499, with 11.5% (39 respondents). The lowest ranges of monthly income are recorded by RM0, RM1,000 and RM4,500 and above, which are 8.8% (30 respondents) and 0.9% (3 respondents), respectively. In the meantime, the highest education level is recorded by Undergraduate (Bachelor's Degree) with 43.6% (149 respondents), followed by Diploma with 28.1% (96 respondents), postgraduate (Master's Degree/PhD) with 19.0% (65 respondents), and the lowest education level is from others, which is only 9.4% (32 respondents). Finally, there are 57.6% (197 respondents) who spend only 1 to 3 hours on social-media sites per week, followed by 28.1% (96 respondents) who spend 4 to 6 hours on social-media sites per week, and 8.8% (29 respondents) who allocate 10 hours and above for browsing social-media sites per week. The lowest time spent recorded is between 7 to 9 hours with 5.9% (20 respondents).

In the meantime, Tables 2, 3, and 4 below present the summary of the descriptive analysis, which includes the mean scores, standard deviations, and ranks of each item in a single variable.

Table 2: Summary of Descriptive Analysis for Social-Media Advertising (A)

Code	Item	N	Mean	Std Dev	Rank
A1	Typically, I check social media for information before making a purchase, especially when it comes to restaurant options in Negeri Sembilan.	342	3.94	0.728	4
A2	It's much easier to browse through menu varieties, including their halal and health selections, especially when considering options available in Negeri Sembilan.	342	4.04	0.688	3
A3	Social media users' reviews from Negeri Sembilan have encouraged me to try new products, services, and brands.	342	4.11	0.744	2
A4	Menus presented on social media have influenced me to try restaurants in Negeri Sembilan.	342	4.23	0.644	1

According to Table 2 above, in terms of social media influence, A4, which refers to social media menus, has the highest mean score of 4.23, indicating a strong impact on purchase decisions. This is followed by social media reviews (A3) and menu browsing with specific selections (A2). Overall, social media interactions play a crucial role in shaping consumer choices, highlighting the connection between social media engagement and purchase intentions.

Table 3: Summary of Descriptive Analysis for Menu Visuals (B)

Code	Item	N	Mean	Standard Dev	Rank
B1	The restaurants' Internet menus are presented in an appealing style.	342	4.04	0.802	1
B2	The visuals on these online menus are very pleasing.	342	3.96	0.810	4
B3	I find these online menus' graphics appealing.	342	4.04	0.757	2
B4	The arrangement of these online menus appeals to me.	342	4.01	0.716	3

In the interim, Table 3 above presents the summary of the descriptive analysis for menu visuals. The result shows that the respondents have generally found the online restaurant menus appealing across all aspects. The menu's style (B1) and graphics (B3) are rated highest, both with a mean of 4.04, indicating strong, positive perceptions. The arrangement of the menu (B4) has a mean of 4.01. The visuals (B2), however, have the lowest mean at 3.96, suggesting that they are slightly less appealing compared to the other elements. Meanwhile, the standard deviations are relatively low, yet, overall, they reflect consistent opinions among the respondents. B2 shows the highest variability (SD = 0.810), indicating more diverse views on the visuals. In contrast, B3 has the lowest variability (SD = 0.757), suggesting that the respondents have principally agreed on the appeal of the graphics. These findings highlight the importance of both aesthetics and organisation in designing effective online menus. In addition, "*The restaurant's Internet menu is presented in an appealing style*", referring to B1 (Mean: 4.04), is tied in scores with B3 but has a slightly higher standard deviation, indicating that it edges out as the most preferred one due to its perceived importance.

Table 4: Summary of Descriptive Analysis for Electronic Word-of-Mouth (e-WOM) (C)

Code	Item	N	Mean	Standard Dev	Rank
C1	Consumer buying decisions are influenced by buzz marketing, which uses news/entertainment to generate word-of-mouth.	342	3.96	0.701	4
C2	Viral marketing that consists of messages intended to be shared electronically or by email influences consumer purchase intention.	342	4.05	0.653	3

C3	Community marketing, which involves user groups, fan clubs, and discussion forums, influences consumer purchase decisions.	3 4 2	4.10	0.759	2
C4	Conversation creation by various forms of entertainment, promotions, emails, and other materials influences consumer purchase intentions.	3 4 2	4.23	0.658	1

According to Table 4 above, in marketing strategies, conversation creation (C4) has the highest mean score, which is 4.23, showing that it is the most effective element in driving purchases. Community marketing (C3) and viral marketing (C2) are also found to influence consumers but to a lesser extent. This suggests that consumers prefer strategies that encourage interaction and communication, with entertainment and engagement playing a crucial role in their choices.

Table 5: Summary of Descriptive Analysis for Purchase Intention (DV)

Code	Item	N	Mean	Standard Dev	Rank
D1	I'm going to visit restaurants in Negeri Sembilan after looking at menus on social media.	342	3.95	0.700	4
D2	My probability of placing an order at restaurants in Negeri Sembilan has increased after looking at the advertisement.	342	4.05	0.691	3
D3	Referral programmes, which provide happy customers with various means to spread the word, have an impact on consumer purchasing decisions.	342	4.10	0.761	2
D4	Consumer buying decisions are influenced by restaurants' interactive social media promotions.	342	4.23	0.658	1

In Table 5 above, D4, which refers to interactive social-media promotions, has the highest mean score of 4.23, showing the strongest influence on consumer purchasing decisions. D3, which represents referral programmes, follows closely with a mean of 4.10, while D2, referring to advertisement, also has a positive impact with a mean score of 4.05. However, D1, which is related to the menu on social media, has a slightly lower mean of 3.95. This suggests that interactive promotions on social media are the most effective way of driving customer interests and purchase decisions among the respondents.

Pearson's Correlation Analysis: This study has employed Pearson's correlation analysis, which is widely recognised as a relevant method for assessing linear relationships between two variables. In this study, purchase intentions serve as the dependent variable, while advertising, menu visuals, and e-WOM act as the independent variables. As mentioned in the previous section, this inferential analysis has been used to examine the hypotheses development and establish the connections using SPSS Version 26 to analyse and test each of the statistical hypotheses.

Table 6: Correlation Analysis

Variable	Advertisement R	Menu Visual R	e-WOM R	Purchase Intention (R)	p-value
Advertisement	1	0.189	0.916	0.916	0.00
Menu Visual	0.189	1	0.133	0.133	<0.001
E-WOM	0.916	0.133	1	1.00	<0.001
Purchase Intentions	0.916	0.133	1.00	1	<0.001

The results in Table 6 above show that social media marketing dimensions, such as advertisement, menu visuals, and e-WOM, are significantly related to customer purchase intentions. Moreover, the correlation results show a strong relationship between e-WOM (electronic word-of-mouth) and purchase intentions with a perfect correlation coefficient of 1.00, indicating a very significant influence. On top of that, advertisement is also found to have a strong, positive correlation with purchase intentions (0.916). In contrast, menu visuals have a much weaker correlation (0.133) with purchase intentions. However, all the relationships have statistically significant p-values (<0.001), confirming the reliability of these findings. Overall, e-WOM and advertisement are the most impactful factors influencing consumer purchase intentions, with e-WOM being the highest significance among the variables.

Hypothesis Testing: The results of the hypothesis test, as presented in Table 7 below, illustrate both the hypotheses and their outcomes.

Table 7: Summary of Hypothesis Testing

Item	Hypothesis	Result of Hypothesis
H1	Social media advertising has a significant, positive effect on restaurant customers' purchase intentions.	Supported P = 0.00 < 0.05
H2	Electronic word-of-mouth (e-WOM) on social media has a significant, positive effect on restaurant customers' purchase intentions.	Supported P = 0.001 < 0.05
H3	Menu visuals on social media have a significant, positive effect on restaurant customers' purchase intentions.	Supported P = 0.001 < 0.05

The results displayed in Table 7 above show that the hypotheses are all supported. Overall, these findings suggest that social media elements like advertising, eWOM, and menu visuals all strongly influence consumer purchasing decisions in the restaurant industry.

Discussion

Social media has become an essential part of our lives, and its impact on consumer behaviour is irrefutable. Prominent literary works have explored the purchasing patterns of consumers in the global restaurant industry. Researchers, including Almohaimmeed (2019), have demonstrated that social media activities significantly drive purchase behaviours in the food and beverage sector. However, there are gaps in our knowledge of how Negeri Sembilan restaurants have shaped consumer purchase intentions. Therefore, this research has attempted to close the gaps through analyses based on the conceptual model that has been constructed. The findings of this study suggest that various social media marketing elements, such as advertising, electronic word-of-mouth (e-WOM), and menu visuals, exert a significant influence on the purchase intentions of consumers in Malaysia, particularly in Negeri Sembilan.

The results of the study display the strong influence of social media marketing on restaurant customers' purchase intentions, with advertisement and electronic word-of-mouth (e-WOM) playing crucial roles. Notably, the data reveal that electronic word-of-mouth and social-media advertising are the most impactful factors, with electronic word-of-mouth having the strongest influence on purchase intentions (Sriram et al., 2021). Additionally, research by Putri et al. (2022) has also suggested that social-media marketing and electronic word-of-mouth (e-WOM) significantly influence consumers' purchase intentions in the ready-to-eat food sector, highlighting the importance of interactive content and shared experiences in driving purchase decisions. This is because electronic word-of-mouth (e-WOM) spreads customer experiences rapidly, which strongly impacts brand engagement and purchase intentions. Thus, the use of social media technology in spreading positive word-of-mouth will increase consumer purchase intentions.

Meanwhile, the findings indicate that social media advertising significantly influences consumer purchase intentions. This study has revealed that most respondents are Millennials, with the highest proportion of them aged between 33 and 37 years old. According to Kumar et al. (2020), the effects of social media on consumer experiences and purchase intentions vary across age and gender demographics. Social media marketing and consumer purchase behaviour are notably shaped by advertising efforts. Gupta and Kumar (2022) have suggested that marketers should aim to foster positive consumer attitudes towards social media advertisements by emphasising key factors that influence purchase decisions. Similarly, Salhab et al. (2023) have also observed that advertising on social media platforms is an effective way for producers to engage with customers. Advances in technology have amplified the impact of social media, simultaneously transforming how consumers form their purchase intentions. Moreover, promoting and advertising a brand on social media can enhance the credibility and trustworthiness of marketing messages, making them more persuasive (Lopes et al., 2023).

Finally, while menu visuals may have a relatively weaker impact compared to the other factors, their importance should not be underestimated. Park et al. (2021) have highlighted the "*picture superiority effect*", noting that visual elements, such as food images, communicate information more effectively than text alone by capturing consumer attention and evoking emotional responses better. Similarly, Soh and Sharma (2021) have also emphasised that a menu's visual appeal can shape perceptions, elicit emotions, and ultimately influence purchasing decisions. Researchers, including Sriram et al. (2021), have underscored the importance of carefully designing social media advertisements, as their visual features and presentation significantly affect consumer perceptions and intentions. Additionally, Park et al. (2021) have also highlighted the role of visuals in electronic word-of-mouth (e-WOM), observing that evaluations featuring images tend to evoke stronger emotional reactions and increase the likelihood of purchase.

5. Conclusion and Recommendations

This study underscores the powerful influence of social-media platforms on consumer purchase intentions, particularly in the restaurant industry of Negeri Sembilan. The widespread use of social media has redefined how consumers make decisions. This is because today's consumers are more informed, connected, and empowered, with the ability to access vast amounts of information and share their experiences with others almost instantly. These shifts in behaviour highlight the need for marketers to harness social media effectively by building brand trust, encouraging positive e-WOM, and designing visually engaging content that resonates with their target audiences. In conclusion, the findings confirm that social-media marketing elements, such as e-WOM, advertising, and menu visuals, significantly affect consumer behaviour, with e-WOM emerging as the most impactful factor among the variables. The findings also suggest that the effective use of menu visuals, though less impactful, can still contribute to customer attraction. Therefore, future marketing strategies should emphasise these factors to enhance customer loyalty and drive sales. This demonstrates the importance of leveraging interactive and shareable content to drive purchase decisions. While this research provides valuable insights, it also identifies opportunities for further exploration. For instance, future studies could examine additional factors, such as service quality and pricing within the restaurant context, to develop a more comprehensive understanding of consumer purchase intentions. This is because the results emphasise the value of these factors in shaping consumer behaviour and suggest practical strategies for restaurant owners to enhance their social media presence. In addition, future research could also explore these factors further in different regions and over extended periods to provide deeper insights into evolving consumer preferences.

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Profiling the Millennial Visitors of the Smart Museum and Satisfaction of Visit: A Case Study of the Borneo Culture Museum, Sarawak Malaysia

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Abstract: The pandemic has shifted museums to a new paradigm in which technology plays an increasingly important role in museum operations. More museums are investing in technology installations to give visitors a more distinctive and meaningful experience. Concerning technology, millennials (also called Generation Y) are an important market segment for museums. The increasing number of millennials visiting museums requires the related stakeholders to understand the millennial visitors' profile to serve them better. Hence, the purpose of this study is to assess the profile of Millennial visitors of the smart museum and investigate the role of technology in visitors' satisfaction. This study employed five trained enumerators to approach the millennial visitors at the study location, the Borneo Culture Museum in Kuching, Sarawak. The descriptive analysis was used to achieve the first objective followed by the simple linear regression for the second objective. The findings include demographic background, types of visits, source of information about the museum, travel companion, motivation to visit, time spent inside the exhibition galleries and the influence of technology on visitors' satisfaction. The findings will be helpful as an addition to the existing knowledge of the museum research and can aid the future study in extending the study related to the millennial generation and the smart museum.

Keywords: *Museum, Smart Museum, Millennials, Visitors' Profile, Borneo Culture Museum, Satisfaction*

1. Introduction

Museums, once considered a province for the elites, have now been seen as an integral part of cultural infrastructure, and in the tourism field, it is categorized as special interest tourism (Arumugam et al., 2023). As a part of the tourism industry, museums are also susceptible to unprecedented events, as observed during the COVID-19 pandemic that caused museums to lose significant revenue due to museum closures that prohibited anyone from entering museums and performing business practices in the museum areas (UNESCO, 2020). As visitors were unable to be in museums physically, they exhibited a weaker connection to museums, leading to a dwindling sense of authenticity (Kono, 2020). However, the pandemic has become the most significant catalyst for museums, as the pandemic has compelled museums to dip into technology. Due to the pandemic, museums have taken the initiative to respond through the technological angle and increase their digital practices to maintain and sustain the connection with their followers (UNESCO, 2020). Some notable examples of museums utilizing technologies can be seen in their increasing presence on social media and ensuring that their digital collections are shown and displayed more interactively and efficiently in the digital sphere. Based on a survey run by the Museum Booster (2021), COVID-19 was found to be the biggest push that drove museums to embrace digital transformation and innovative technological adoptions such as mixed reality (MR), augmented reality (AR), and virtual reality (VR).

Despite the technological shift, Malaysian museums still practice the old style of displaying their exhibitions, signalling that technological advancement in Malaysian museums is still in its infancy. The adherence to the classical display styles can be challenging against the now digital native community, especially in how to address and earn this type of visitor's favor (Fauzi et al., 2022). The community of digital natives is represented by the Millennials (Gen-Y). The Millennials are generally known to participate in leisure activities consummately, and museums and art gallery tours are top-rated among most millennials (Kim et al., 2020b). Despite their contribution to the growth and popularity of museums, few studies have been taken to understand the Millennials' role in molding tourism, comparatively to their counterparts in age-related market segments, like the baby boomers. The lack of studies led to little proof to explain Millennials' contrasting attitudes, values and behaviors regarding tourism due to the absence of any significant empirical support that can aid management in improving their practices (Kim et al., 2020a). Therefore, the purpose of this study is to assess the profile of millennial visitors to the Borneo Culture Museum (BCM) in Kuching, Sarawak. This new and contemporary museum has become a Kuching landmark, with an eye-catching architectural design that showcases Sarawak's rich cultural heritage and distinctive traditional crafts. More than 1,000 artifacts represent the rich culture and traditions of Borneo and Sarawak's indigenous peoples. Despite other Malaysian museums being in the early stages of technology adoption, BCM has included technology in approximately 30% of their exhibitions (Fauzi et al., 2022). In addition, this smart museum offers hands-on activities and interactive educational events for younger generations. The findings of this study will be useful for the relevant stakeholders in understanding the Millennial visitors aside from adding to the existing body of knowledge about specific cohort generation and culture heritage tourism. This paper starts with a general introduction to the museum and the difference between traditional and modern museums. The later section discusses the museum development in Malaysia and the millennial generation. The third section is related to the method used in conducting the research, followed by the result and discussion. Next is the study's conclusion and the implications of the current study. The last part will discuss the limitations and recommendations for future research about the museum.

2. Literature Review

Museum and Smart Museum: Globally, museums are scattered across the globe. However, more museums have been built as decades pass, especially in the developing world, with a projected 95,000 museums to exist in 2020 (UNESCO, 2020). As part of cultural tourism attractions, the museum has gone through a revised definition to suit its latest function towards the communities. The change of definition has been acknowledged and noted by The International Council of Museums (ICOM). ICOM is the sole global association in the museum industry, and with a membership of 129 countries, it is lauded as the voice of museum professionals internationally; this association has carried numerous efforts to increase cultural awareness among the global community through cooperation efforts and global linkages (ICOM, 2024). Since the first ICOM conference in 1946, the word "museum" has been modified based on the current relevancies. The latest approved definition in the year 2022 read as:
"A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing" (ICOM, 2022).

Current trends in museum visits are influenced by a variety of factors, including technological advancements, evolving visitor expectations, and shifts in societal values. With the evolution of social networks, people are increasingly willing to share their cultural consumption experiences on social media platforms (Oliveira et al., 2020). In parallel with the rapid technological development, today's visitors expect more interesting museum exhibitions as they are now shifting to new structures involving experimental activities rather than just formal and didactic methods of learning (Annechini et al., 2020). This demand became more apparent after the pandemic of COVID-19, which led the museum to operate its museum using smart technologies. Museums have traditionally used static displays, physical artifacts and limited interpretation to showcase their collections. Visitors would go around galleries, examining things behind glass cases and reading labels. Although this strategy created amazement and astonishment, it lacked interactivity and meaningful engagement for guests.

The modern museum nowadays has engaged technology in the museum operation, leading to the birth of smart museums. Compared to the conventional museum, smart museum exhibition space has a different psychological experience for the audience with the exhibition design focusing on the viewer's knowledge, the innovative use of artificial intelligence technology makes the space display form more diversified, and the exhibition design is more towards developing humanized trends (Yang et al., 2024). Digitalization has transformed how museums show and interpret their collections. The technology enables immersive and interactive displays that engage visitors and enhance their comprehension of artifacts (Yang et al., 2024). In addition, the Internet of Things (IoT) and smart space technologies support the creation of smart museums based on digital infrastructure and information systems deployed in modern museums. Technological usage can include providing visitors with interactive activities with the museum and allowing visitors to enjoy an immersive, dynamic experience that caters to their personalization (Balducci et al., 2020).

The development of the Museum in Malaysia: The year 2023 marked the six decades of the Malaysia National Museum (DMM, 2023). Malaysia hosts 150 museums (DMM, 2024), which are divided into five categories: personal, private, institution/department, state and federal. The Department of Museum Malaysia acts as the National Museum and twenty-two federal and state museums. This guardianship covers one museum in Perlis, Selangor, Pahang, Johor and Melaka, two in Perak and Negeri Sembilan, three in Kedah and Labuan and seven in Kuala Lumpur. Museums are not governed by the department, they are under the administration of the state government, as seen in Penang, Kelantan and Terengganu. For the states in Borneo Island, thirteen museums in Sabah are under the management of the Ministry of Tourism, Culture and Environment. As for Sarawak, thirteen museums are managed by the Ministry of Tourism, Arts and Culture Sarawak.

Malaysian museums experienced 70 percent reduced visitor attendance during the pandemic, as they were unable to utilize any technological advances to their benefit, failing to draw both local and international visitors (Fauzi et al., 2022). Following this situation, Malaysian museums were faced with a tall order to ensure that the museums continue to be marketable, competitive and relevant with time (SER, 2020). After the pandemic and lockdown, the National Museum Malaysia took the initiative to launch an augmented reality (AR) smartphone application in March 2022 that features twenty-eight collections. Perak Museum followed the same course of action by launching its AR app that exhibits six galleries. Through AR utilization, prominently the QR codes, visitors can check and get information about exhibitions on their mobile phones. The move made by the Malaysian National Museum to adopt technological advances in its practices has been lauded positively, as the National Museum is the main hub for safeguarding Malaysian cultural assets. The National Museum takes another step into technological adoption by currently developing a 360-degree virtual tour prototype project for the Malaysia National Museum Kuala Lumpur's internal gallery to earn more favor among visitors (DMM, 2024).

Another museum, the Malacca Museum, is adopting advanced technology in its operation by introducing Augmented Reality and 3D mapping, and this project is expected to be operational by 2027 (BERNAMA, 2023). In Penang, efforts to incorporate technology were made before the pandemic, as twenty-one interactive museums were introduced in Georgetown in 2019 (Maliki et al., 2021). However, these interactive museums are privately supported museums, and they carry different visions and objectives from the government and state-funded museums. Apart from the above examples, the remaining museums in Malaysia have unremarkably low levels of technological adoption, with most being rudimentary, confined to museums applying virtual tours available on their social media and official websites (SER, 2020; Fauzi et al., 2022).

Borneo Culture Museum (BCM), Kuching, Sarawak: The best example of Malaysian museums showcasing their technological prowess is The Borneo Culture Museum in Kuching, Sarawak. This newly built museum, which operated in March 2022, is a testament to how Malaysian museums should apply technology. Located in the center of Kuching city, this five-story museum is modern, with distinctive architectural features reflecting Sarawak's unique traditional crafts and rich cultural heritage. Each gallery promises a fascinating and different experience to the visitors. Starting with the modern ticketing counter on the first floor, the children's gallery and 'Love our River' theme on the second floor offer an immersive experience and encourage the visitors to engage in the activities provided. The third floor brought the 'Harmony with Nature' theme, allowing the visitors to look and listen to nature's sounds through audio-visual and virtual reality. In addition, the 'Time Changes' gallery is on the fourth floor, followed by the fifth floor with the theme of the 'Objects of Desire' that offers an interactive exhibition experience. In addition to its permanent exhibitions, the museum is introducing innovative and captivating ways to present exceptional exhibits for the benefit of the community. In the year 2024, the museum conducted Luke Jerram's GAIA (The Earth) Exhibition, featuring 3D models suspended within the museum, creating a phenomenal, immersive experience and showcasing Sarawak's excellence in museology, and proudly draws over 89,000 visitors for that exhibition alone. Due to its advanced technological adaptation, this museum has reached one million visitors within two years of operation, and the tourists were amassed from fifty-five nations. For this endeavor, the Sarawak state government has used up to RM15 million budget to install digital facilities and technologies in the museum in the hope of increasing visitor experience positively (Borneo Talk, 2020).

Millennials: Studies that looked into generation cohorts have been carried out and growing due to the interest in understanding how different generations can impact diverse settings. The latest trend in research has paid more attention to the Millennial generation, as compared to their predecessor, the Baby Boomers and Generation X (Galdames et al., 2022). The Millennials, or Generation Y, are made up of people who were born between 1980 and 2000 (Kim et al., 2020b; Calvo et al., 2020; Kim et al., 2020a). In other definitions, a slightly different time interval has been used to categorize the birth years of Millennials; 1981 to 2000 (Lee, 2020), 1979 to 1999 (Galdames et al., 2022); 1977 to 2000 (Brailovskaia et al., 2020), 1981 to 1999 (Prakash et al., 2021). Even though a consensus has not been reached in dating the Millennial group, the broad understanding puts them as a generation born in the early 1980s to the mid-1990s and 2000 (Kapferer et al., 2022). In this study, Millennial is defined as people who were born between 1980-2000, replicating the similar demographics used in a study that looked at museum settings in Korea (Kim et al., 2020b).

Growing up during a period of rapid technological advancement, millennials are known for their deep familiarity with digital devices, social media, and the internet. Undoubtedly, the Millennials are technologically literate and savvy, as they have grown up and have been immersed in technology all their lives, being in constant contact with digital media, technologies and the internet (Calvo et al., 2020; Kim et al., 2020a). Unlike previous generations, they were the first to experience the transition from an analog to a digital world, making them highly adaptable to new technologies. Millennials also value a work/life balance, possess various demands, value digital connectivity, engage in social responsibility and are 'avid travellers' (Richards et al., 2020). Moreover, millennial travelers are regarded as fully digital tourists whereby they use technology in every travel stage starting from trip planning by making online reservations and finding inspiration on social media platforms, followed by exploring the destination with technology assistance and finally leaving a review and sharing their travel experience through social media (Ketter, 2020).

The Millennials are currently the most prominent group that makes up the economically active population, and most of them are raising Generation Z as parents. The influence of the Millennials should not be overlooked, as they have witnessed unprecedented challenges in the fields of social, economic and politics that had never occurred in the previous generations' time. The interest in investigating the degree of influence imparted by the Millennials on global tourism has been increasing of late. Literature favors the Millennials, attesting to their growing power in influencing the tourism field through their need to have true experiences, humanitarian efforts, and satisfactory application of Web 2.0 technologies when they embark on any tourism activities (Días et al., 2022; Du et al., 2020). As Millennial has a tight connection to technology, they are prone to put their experiences on social media, and their social media posts can generate a broad and quick marketing opportunity that can bring more visitors rapidly (Javed et al., 2020; Pencarelli et al., 2020). In line with these notions, it is imperative to understand millennial tourists' profile and motivations to benefit tourist businesses. Hence, assessing the profile of millennial visitors to the Borneo Culture Museum will provide the basis for understanding the millennial market segment at the smart museum.

Technology and Satisfaction: In the highly competitive tourism industry, visitors' satisfaction plays a critical role in the success and sustainability of tourism-related businesses. Satisfaction refers to the level of contentment that tourists feel after experiencing a product or service, and it has significant implications for customer loyalty, repeat visits, word-of-mouth promotion (Liu et al., 2024; Preko et al.,2020) and willingness to pay more (Preko et al.,2020). Understanding and improving customer satisfaction is essential for both attracting new tourists and retaining existing ones. Specifically in the museum setting, visitors' satisfaction has received continuous attention (Prayag et al., 2019), with the technology seen as a critical factor that led to visitors' satisfaction (Ibrahim et al.,2021). The previous studies highlighted the positive relationship between technology and satisfaction such as the study of the Ara Pacis Museum in Rome (Trunfio et al., 2021) which discovered that technology usage contributed to the enhancement of visitor experience and satisfaction.

In a study of the Brunei museum, visitors were found to be dissatisfied with the average technology implementation at their museum, leading the researchers to propose the museum management to invest more in technology (Ibrahim et al.,2021). In another study, the finding shows the use of immersive technology in China Museum positively improves visitors' attitudes, satisfaction and motivates them to revisit in the future (Liu et al.,2024), the utilization of the Internet of Things (IoT) in China Museum guided tour enhance the experience and convenience of the visitors that later resulted to 24.3% increase in their satisfaction (Hou, 2024). The integration of technology in tourism and museum experiences is no longer just a luxury; it has become a necessity for improving visitor satisfaction. From enhancing engagement through immersive technologies to streamlining operations and personalizing experiences, technology plays a pivotal role in meeting visitors' evolving expectations.

3. Methodology

The target population for this study is visitors to the Borneo Culture Museum in Kuching, Sarawak. This museum was chosen because this new museum uses the elements of technology in presenting its exhibits. This second-largest museum in Southeast Asia successfully changed the perception towards the museum, which can be seen through positive visitor feedback on social media. To ensure validity, expert feedback was obtained, followed by the pilot test involving 30 respondents. As for the reliability, the items were assessed using Cronbach's alpha. The sample size was determined using statistical power analysis to ensure the minimum sample size was met, and 285 respondents participated in the survey from June to September 2024. The case study approach was applied by sending enumerators to the study area to achieve study objectives. These numerators reached out to likely respondents and screened these potentials by acquiring their age to confirm whether they belong to the Millennial group (aged between 24 to 44 years old in 2024). Once qualified, respondents are given a QR code that directs them to the online Google form survey, where they must complete the questionnaire on the spot. In analyzing the Millennial visitor's profile to the Borneo Culture Museum, descriptive analysis is used and the explanation will focus on the demographic background, types of visits, sources of information, visit companion, motivation of visit and duration of the visit. In analyzing the roles of technology, a simple linear regression was used to investigate the relationship between technology and satisfaction.

4. Findings and Discussion

Demographic background: A total of 285 visitors took part in the survey with their background presented in Table 1.

Table 1: Demographic background of Millennial visitors

Details	Total Respondents	Total percentage (%)
Gender		
Male	115	40.4
Female	170	59.6
Nationality		
Malaysian	280	98.2
Foreigner	5	1.8
Age		
24-30	222	77.8
31-35	19	6.7
36-40	9	3.2
41-44	35	12.3
Education Background		
Doctoral Degree	4	1.4
Master Degree	23	8
Bachelor Degree	111	39
Diploma	94	33
A-level	10	3.5
O-level	1	0.3
High School	31	11
Others	11	3.8
Profession Background		
Government Sector	65	22.8
Private Sector	57	20

Self-employed	21	7.4
Business Owner	7	2.5
Students	118	41.4
Unemployed	9	3.1
Retiree	1	0.3
Others	7	2.5
Salary Range		
MYR3,000 and below	188	66
MYR 3,001-MYR5,000	48	16.8
MYR5,001-MYR10,000	29	10.2
MYR10,001-MYR15,000	12	4.2
MYR15,001-MYR20,000	4	1.4
MYR20,001 and above	4	1.4

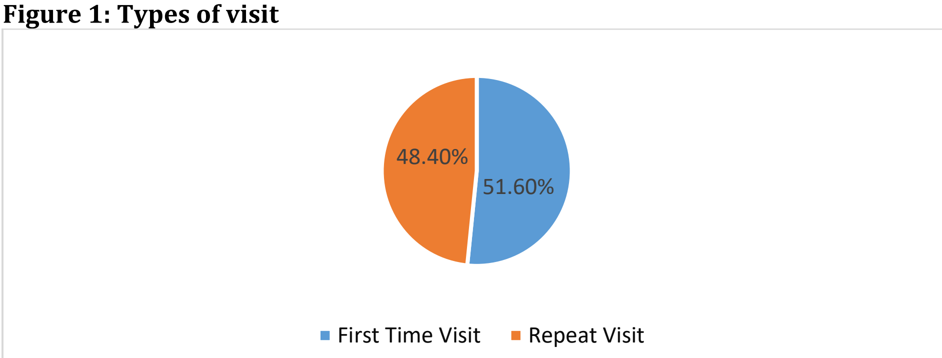
Source: Author's work

Female respondents contributed 59.6% (n=170), while male respondents comprised 40.4% (n=115). In this study, an overwhelming majority of respondents are Malaysian visitors, 98.2% (n=280), compared to 1.8% (n=5), who were international visitors from Indonesia (n=2), France (n=2), and Canada (n=1). In terms of age, more than half of respondents are between 24 and 30, accounting for 77.8% (n=222), followed by 12.3% (n=35) aged between 41 and 44. Other age groups include visitors aged 31-35 at 6.7% (n=19) and 36-40 at 3.2% (n=9). Concerning educational background, 39% (n=111) of visitors have a Bachelor's Degree, followed by around 33% (n=94) who have a diploma. High school graduates accounted for 11% (n=31), whereas Master's Degree holders accounted for around 8% (n=23). Roughly 3.5% (n=10) have A-level qualifications, 1.4% (n=4) have Doctoral Degrees, 0.3% (n=1) have O-Level and 3.8% (n=11) have other academic qualifications.

According to professional background, 41.4% (n=118) are students, 22.8% (n=65) are government servants, and around 20% (n=57) are private sector employees. Self-employed visitors accounted for around 7.4% (n=21), while unemployed visitors accounted for about 3.1% (n=9). Furthermore, business owners and other occupations have the same proportion at around 2.5% (n=7), whereas retirees account for only 0.3% (n=1). Salary information was also gathered to determine the range of monthly salaries for museum visitors. Of 285 respondents, 66% (n=188) earned MYR3000 or less. Based on the demographics, most respondents were between 24 and 30 years old, either in their studies or just starting to work. About 16.8% (n=48) of respondents earn between MYR3001 and MYR5000. Meanwhile, 10.2% (n=29) of respondents earn between MYR5001 and MYR10,000. Another income range is between MYR10,001 and MYR15,000, which accounted for 4.2% (n=12), followed by 1.4% (n=6) for both with a monthly salary between MYR15,001 to MYR20,000 and MYR20,001 or higher.

Types of Visits: This study, which focuses on the smart museum, also considers the types of visits to the museum to determine whether the respondents visit for the first time or make repeat visits. Figure 1 represents the proportions for both types of visits highlighted in this study.

Figure 1: Types of visit



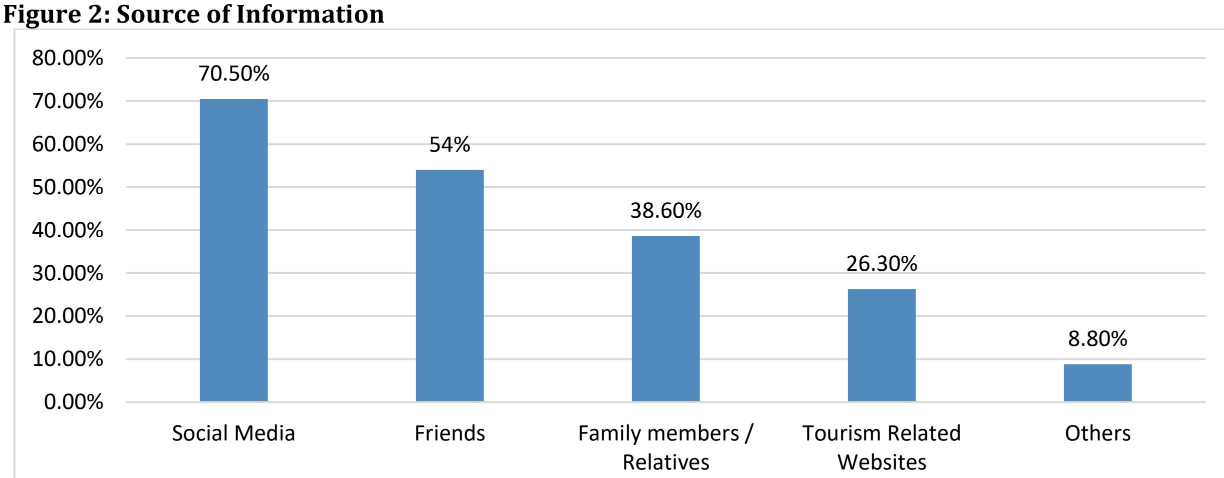
Source: Author's work

Undoubtedly, museums can attract first-time visitors based on their eagerness to enjoy cultural offerings in the museums. These people are referred to as explorers, whereby the visit is driven by curiosity, with a general interest to know more about the topics offered by the museum. They want interesting content that captures their attention and makes them learn (Cotter et al., 2021). Meanwhile, repeat visitors are favored because they do not cost much to be enticed to visit, compared to first-time tourists (Rasoolimanesh et.al., 2021; Abbasi et.al., 2021). Interestingly, the Borneo Culture Museum's visitors are almost evenly divided between first-time and repeat visitors. This study recorded 51.6% (n=147) first-time visitors and 48.4% (n=138) repeat visitors. Various reasons have been highlighted in the previous studies about the reasons to visit the same destination in the future. Vada et al. (2023) suggest that tourists are prone to come back to their well-known destinations for five reasons: (1) to lessen the possibility of meeting similar-minded people; (2) to raise the possibility of encountering similar-minded people; (3) they have become emotionally attached to the destination; (4) to get the experience the products offered by destination that were not visited in their previous trip; and (5) to show others to experiences that they had felt before. All of these factors must be carefully considered by museum management to attract more repeat visitors in the future.

In general, just like the other components of tourism products, museums rely on repeat customers to sustain the business. Culture and heritage tourism are addressed as dealing with intense competition (Deb, 2020) in today's business environment. In cultural heritage tourism, acquiring repeat customers is one of the most important long-term marketing goals, since it is the key to business survival and success (Cakici et al., 2019). According to a recent study (Zhou et al., 2023), memorable tourism experiences are the most powerful motivator for visitors to return to cultural and heritage monuments. As mentioned in the preceding section, smart museums engage visitors in their exhibitions through digitalization and other recent technologies. This recent approach can lead to an unforgettable museum experience that can generate repeat visitors. In the smart museum, technology plays a vital role in experience enrichment and motivates people to revisit (Chen et al., 2024; Yang et al., 2022). As for the visitors of the Borneo Culture Museum, the factor of technology implementation by the museum is assumed to be one of the reasons that drive the millennial market segment to return after their previous initial visit. Repeat visitors are undeniably vital for destination sustainability, and for Borneo Culture Museum, the success of attracting repeat visitors is an achievement that may inspire other museums, especially in Malaysia.

Sources of Information: A question on the source of information provides five answer options. Respondents are allowed to choose more than one answer to indicate how they know about the Borneo Culture Museum, Kuching, as shown in Figure 2 below:

Figure 2: Source of Information

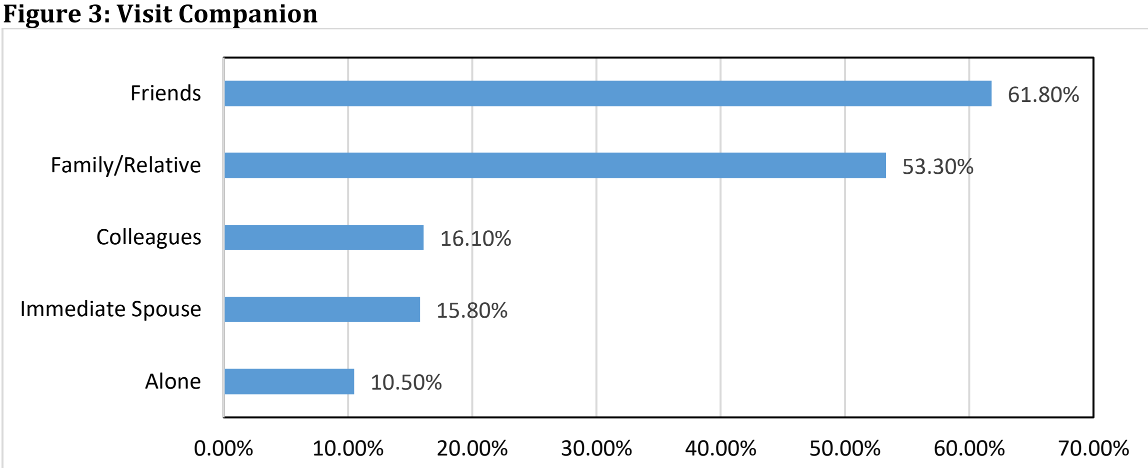


Source: Author's work

The main information source closely reflects the millennial generation, known as a tech-savvy generation, when 70.5% (n=201) disclose that information about the museum is gained from social media. Meanwhile, 54% (n=154) of visitors know about the museum from their friends, followed by the sum of 38.6% (n=110) getting museum information from family members or relatives. Another 26.30% (n=75) utilize tourism-related websites. Meanwhile, 8.80% (n=25) gained information from other sources. Based on the result, the highest source of information that came from social media was possibly due to the Borneo Culture Museum's strategy to use social media actively, attesting to their success of getting 44,000 followers on Facebook and 5,500 followers on Instagram, as recorded in March 2025. As the tourism industry has experienced a significant shift in the way travellers, particularly the millennial generation, seek and consume information about travel destinations and attractions, the role of social media must be admitted as the means to reach millennial market segmentation (Kim et al., 2020b; Tan et al., 2021). The digital age has undoubtedly made social media the main platform that challenges the transformation of numerous industries, particularly tourism. Social media has become a powerful tool that aids the tourism industry, as it has unparalleled power to spread information, promote tourism spots, and influence travellers when they are making decisions about their tourism activities (Ketter, 2020). These shifts are highly abetted by Millennial travellers as they have taken social media as their primary source to acquire information and be inspired when making their travel plans. Millennials are also highly exposed to and utilize social media broadly. Millennials regard technology vastly and social media should be seen as a unique facet of this generation. Social media is considered to be a prominent source to help them choose their tourism destination, their means of transportation to the destination and places to stay (Tan et al., 2021).

Visit Companion: The travel companion plays a significant role in the tourism industry. A travel companion can significantly influence the overall experience of a trip, affecting everything from the enjoyment of the journey to the quality of memories created. A study found that an individual's travel mate can significantly impact tourist well-being and behavioral intentions (Vada et al., 2022). The question about Millennials' visit companion to the Borneo Culture Museum offers them the options of friends, family/relatives, colleagues, immediate spouse or travelling alone, and they are allowed to give more than one answer.

Figure 3: Visit Companion

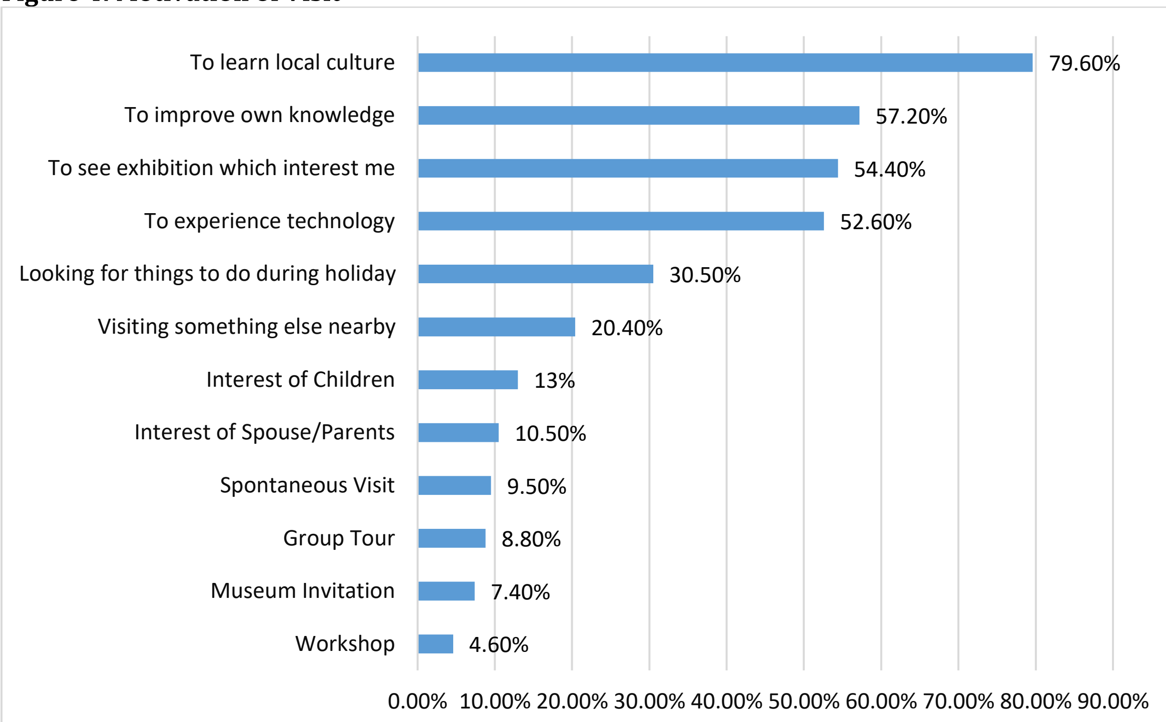


Source: Author's work

The millennial visitors to the Borneo Culture Museum recorded the largest proportion at around 61.8% (n=176) of those visiting with friends. Meanwhile, the second largest companion is family/relatives, which accounted for 53.3% (n=152). Travelling with colleagues represents the sum of 16.1% (n=46), followed by visitors with immediate spouses at about 5.8% (n=45) respondents. Finally, visitors who visited alone accounted for 10.5% (n=30). Research suggests that millennials value social relationships and group experiences during their travels. A study in another country, such as India, by Yousaf et al (2021) suggests that one of the seven travel motivations for Indian millennials is "social relationships". This indicates the significance of companionship in their travel decisions. Congruently, the findings of Chen et al (2020) identify "play in the group" as one of the three main motivation types for Chinese millennials, emphasizing the importance of sociability as a factor influencing travel satisfaction. This finding shows the need for museum management to provide activities that are suitable for those visiting with companions, whether friends, family, or others, by offering a range of services and features that cater to groups and make the experience more social, comfortable, and engaging.

Motivations of Visit: The question about the motivation for the visit includes twelve reasons whereby the respondents may select more than one answer. This motivation consists of cultural interest, knowledge as a pull factor, own or other dependents' interest, curiosity about the technology usage in the museum, as part of a holiday or group tour activity, spontaneous visit, visit while attending a workshop at the museum or fulfilling a museum invitation. Figure 4 shows the motivations of visits from the largest to the smallest proportion.

Figure 4: Motivation of Visit



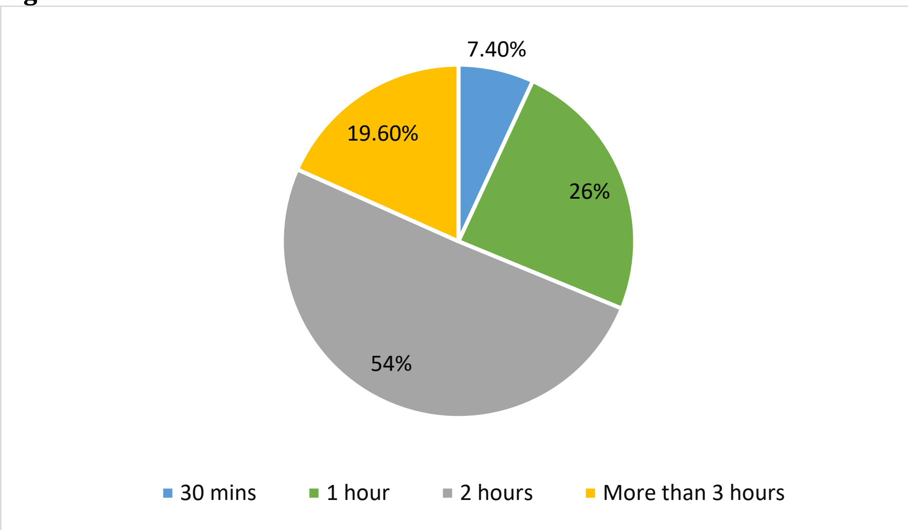
Source: Author's work

The drive to learn about local culture accounts for the highest percentage, around 79.6% (n=227), followed by the desire to increase one's knowledge, which accounts for 57.2% (n=163). These two reasons are consistent with the functions of the museum as defined by ICOM (2022). Previous research has shown that millennials are the most regular visitors to cultural hubs like museums and concert halls, with a high lifetime value and devoted audiences. The drive to learn about local culture accounts for the highest percentage, around 79.6% (n=227), followed by the desire to increase one's knowledge, which accounts for 57.2% (n=163). These two explanations are consistent with the functions of museums as defined by ICOM (2022). Previous research has shown that millennials are the most regular visitors to cultural hubs like museums and concert halls, with a high lifetime value and devoted audiences (Kim et al., 2020a).

The next reason for the visit is to see an exhibition that interests them, which accounts for around 54.4% (n=155). In terms of technology-related motivation, 52.6% (n=150) of respondents visited the Borneo Culture Museum to experience the technology deployed by the museum. Aside from that, approximately 30.5% (n=87) have included museum visits as part of their vacation activities. In addition, 20.4% (n=58) went to the Borneo Culture Museum after visiting other nearby local attractions. Visiting the museum for the interest of children accounted for 13% (n=37), while spouses/parents accounted for 10.5% (n=30). Visitors pay a spontaneous visit at around 9.5% (n=27), as part of a group tour at about 8.8% (n=25), fulfill museum invitation at about 7.4% (n=21) and visit while attending a workshop at the museum at about 4.6% (n=13). The findings suggest that the top five motivations for visiting the Borneo Culture Museum include the desire to experience the museum technologies. This includes games and interactive activities, an interactive exhibition panel, audio-visual technology, interactive touchscreen exhibits and a virtual reality experience. This smart museum approach resulted in a different and unique museum experience, which was then shared on social media soon after their visit.

Duration of the Visit: Previous scholars suggest that the length of stay at a cultural site is considered a satisfaction indicator. The longer time people spend in a museum indicates the more they benefit from the visit, contradicting those who spend a shorter time. The question about the duration of the visit aimed to gather accurate time spent inside the museum (exhibition galleries). This particularly refers to the time allocated to engage with the exhibition, such as participating in the activities available and using the technological elements offered by the Borneo Culture Museum. The time proportion is divided into four: 30 minutes, 1 hour, 2 hours, or more than 3 hours.

Figure 5: Duration of the Visit



Source: Author's work

More than half of the Millennial respondents of the Borneo Culture Museum (54%, n=154) spent 2 hours inside the museum, whereas the second highest percentage (26%, n=74) spent one hour. Approximately 19.6% (n=56) of respondents spent more than 3 hours, whereas 7.4% (n=21) barely spent 30 minutes at the museum. The duration of two hours is significantly longer than the length of stay in any other museum as a study in the Art Museum in Finland discovered a single visit to the museum is short, as 89,32% of the respondents estimated that they spend less than two hours on a single visit (Jääskeläinen, n.d.). However, the amount of time spent in the museum varies depending on whether the visitors came to see only a single exhibition or the entire museum. The Borneo Culture Museum's two-hour duration demonstrates the growing interest of millennial visitors in the exhibition and activities offered by the museum management. Furthermore, the use of technology to enhance the museum experience lengthened the visit. Previous research revealed that technology can drive millennials to visit museums (Kumraksa et al., 2024). This technology-related factor is relevant to the Borneo Culture Museum since they are utilizing different elements of technology to showcase their exhibits, and technology is unquestionably regarded as a millennial's passion.

Technology and Satisfaction: Finally, to investigate the roles of technology towards millennial visitors' satisfaction, the simple linear regression was used to test the following hypotheses:

$\mathbf{H_0}$: Technology has no significant effect on the overall satisfaction of smart museum visitors
$\mathbf{H_1}$: Technology positively affects the satisfaction of smart museum visitors.

The Influence of Technology on the Satisfaction

Table 1 shows the model summary with a produced R-value of 0.802, indicating a strong positive correlation between technology and satisfaction. The R^2 value of 0.642 suggests that 64.2% of the variance in visitor satisfaction can be explained by the level of technology in the museum. The Adjusted R^2 value (0.641) is close to R^2, confirming the model's stability.

Table 1: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802[a]	.642	.641	.42723

a. Predictors: (Constant), Technology

b. Dependent Variable: Satisfaction

Table 2 shows ANOVA results indicate that the regression model is statistically significant (F(1,283) = 508.410, p < 0.001). This confirms that technology significantly contributes to predicting satisfaction.

Table 2: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.798	1	92.798	508.410	<.001[b]
	Residual	51.655	283	.183		
	Total	144.453	284			

a. Dependent Variable: Satisfaction

b. Predictors: (Constant), Technology

Linear regression analysis presented in Table 3 examines the impact of technology on the satisfaction of smart museum visitors. The unstandardized coefficient (B = 0.759, p < 0.001) suggests that for every one-unit increase in technology, visitor satisfaction increases by 0.759 units. The standardized beta coefficient (β = 0.802, p < 0.001) further reinforces the strong effect of technology on satisfaction.

Table 3: Linear Regression Analysis between Technology and Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.189	.144		8.285	<.001
	Technology	.759	.034	.802	22.548	<.001

a. Dependent Variable: Satisfaction

Based on the above analysis, the null hypothesis was rejected. Technology is significantly affecting the satisfaction of the millennial visitors of the Borneo Culture Museum. This finding is in congruence with previous studies highlighting the important role of technology in producing satisfied museum visitors.

5. Conclusion and Recommendations

It is projected that the Millennial generation will represent 75% of the global workforce by 2025. Thus, Millennials will be the most important market segment that will shape the tourism industry worldwide. Realizing their potential to help sustain culture and heritage tourism, this study provides an initial Millennial visitor's profile. The focus had been given to the smart museum due to the post-pandemic paradigm that has witnessed the usage of technologies emerging in the tourism business, just like other sectors in the business landscape. This study focuses on the millennial visitors of smart museums, specifically on the Borneo Culture Museum in Kuching, Sarawak. This museum houses an exhibition of Sarawak's rich culture and heritage, which was chosen as it is the largest in Malaysia and the second largest in Southeast Asia. In addition, the technology usage in this museum is well ahead as compared to other government and state-funded museums in Malaysia at the moment. It leaves the visitors amazed and changes their perception of the museum visitation experience. In addition, due to Millennials being well known as a technology-savvy generation and using technology heavily in almost every aspect of their lives, the findings from this study can be used by the Museum administration to better understand the millennial market.

In this study, the profile of the millennial visitors is divided into their demographic, types of visits, sources of information, visit companion, motivation and duration of the visit. The important finding of the study discovered social media as the main source of information among millennials. Social media has proven to be the most powerful medium to approach the millennial market and plays a significant role in how millennials experience and share cultural content. They often seek shareable and worthy moments during museum visits, which can boost visibility and engagement for the museum. Hence, museums should design exhibits and experiences with an eye toward social media that can result in positive electronic word of mouth among millennial visitors.

In addition, technology was found among the top five reasons to visit the Borneo Culture Museum, which is aligned with the previous research that found integrating technology and innovations in museums is a crucial approach to 21st-century museum development and to attract the millennial generation to visit the museums. This finding should be paid attention to by other museums that still use the conventional method of displaying the exhibits. Undeniably, the growing importance of technology, interactivity, and personalization in creating meaningful museum experiences for the millennial market needs the museums to adapt by integrating modern technologies, offering engaging and flexible experiences and ensuring accessibility and inclusivity. By aligning with millennials' values and expectations, museums can cultivate a strong and sustainable connection with key audiences, ultimately driving engagement, loyalty and cultural enrichment.

Since the technology application at the museum in Malaysia is still in the infancy stage, as other museums in Malaysia are reportedly in the process of technology installation, this study was conducted in a case study method. While the study on millennial visitors' profiles provides valuable insights, several factors limit its generalizability across different types of museums and populations. As the respondents are millennial visitors, the result of this study does not represent other generational cohorts of visitors. In addition, the result also cannot be generalized to other museum types such as private museums and personally funded museums. However, once the smart technology usage in Malaysia's museums becomes more mature, future study is suggested by sampling visitors from several museums and including private and personally funded museums. Other than that, the future study can be extended to the visitors' acceptance of smart technology in the museum setting using related theories such as TAM and UTAUT. Finally, future researchers might also be interested in exploring from the museum staff's perspective on their readiness towards technology implementation at the museum as they will be the person responsible for assisting the visitors in using the latest technologies that the museum will provide, thus helping in gaining the expected memorable visit experience.

In conclusion, understanding the profile of millennial museum visitors is essential for museums striving to remain relevant and engaging in today's rapidly changing cultural landscape. As museums adapt to the evolving preferences of millennials, they not only enhance the visitor experience but also secure their place as essential institutions for learning and community engagement. By fostering a culture of innovation and collaboration, museums can navigate future challenges while cultivating a new generation of passionate and informed visitors. In doing so, they will continue to serve as vital platforms for cultural exchange and social connection, ensuring their relevance in an ever-changing world.

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Assessing Hotel Guests' Satisfaction: The Influence of Hotel Image, Trust and Green Practices in Malaysia

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Abstract: This study examines the correlations between satisfaction and key factors such as brand image, trust, and green practices among hotel guests in Malaysia. As environmental awareness grows among consumers, many hotels have adopted green practices to meet the evolving expectations of environmentally conscious travelers. A survey was conducted with 386 Malaysian respondents aged 18 and above, all with prior experience visiting hotels that implemented green practices. Data was collected using convenience sampling through a structured Google Forms survey comprising three sections and a qualifying question about the respondents' experience with green hotels. The findings reveal a positive correlation between guest satisfaction and the variables of green practices, trust, and hotel image. This study underscores the importance of integrating sustainable practices into hotel operations not only to enhance brand image but also to build trust with guests, thereby fostering long-term customer satisfaction and loyalty. The results provide valuable insights for hotel managers seeking to improve service quality and establish a competitive edge in the growing green tourism market.

Keywords: *Green practices, trust, image, satisfaction, hotel guests.*

1. Introduction

In the highly competitive hospitality industry, guest satisfaction is crucial for a hotel's success. Satisfied guests are more likely to return and recommend the hotel to others, making it essential for hotels to understand the key drivers of satisfaction (Koo et al., 2020). In Malaysia, where tourism significantly contributes to the economy, hotels must build trust, maintain a strong brand image, and implement sustainable green practices to meet evolving guest expectations (Chung, 2020). As travelers become more discerning, the ability of hotels to foster trust and establish a reputable brand image while aligning with sustainability trends has become a key differentiator in the market (Bardukova, 2023).

Green practices are becoming increasingly significant in the hotel sector as part of efforts to reduce environmental problems and promote sustainable living. Experts define "green practices" as the application of "green theory" to address environmental issues resulting from harmful industrial and human activities (Moise et al., 2021). These practices involve environmentally responsible actions, are resource-efficient, and promote sustainable stewardship. Malaysia has prioritized adopting environmentally conscious and sustainable practices to safeguard its natural resources. Green hotels employ energy-saving measures such as low-flush toilets and energy-efficient air conditioning systems, similar to sustainability practices in the food and beverage packaging industry (Molina-Collado et al., 2022). As environmental awareness grows, an increasing number of travelers seek eco-friendly accommodation, with studies showing that 61% of travelers prefer staying in green hotels, and 22% actively look for green information when booking their stays (Wang et al., 2021; Sadiq et al., 2022).

Despite the recognized importance of trust, brand image, and green practices, there is a gap in understanding how these factors collectively influence guest satisfaction in the Malaysian hotel industry. Trust is critical to fostering long-term customer loyalty and positive word-of-mouth recommendations (Rane et al., 2023). Similarly, a strong brand image enhances customer perceptions and influences their decision-making process, ultimately affecting their satisfaction levels (Khan, 2023). Moreover, in response to rising environmental concerns, leisure travelers actively seek hotels that implement green initiatives, making sustainability a key factor in guest satisfaction (Moise et al., 2021). However, studies examining the combined impact of these factors on hotel guest satisfaction remain limited, particularly within the Malaysian context (Khalil et al., 2024).

This study aims to investigate the relationship between trust, brand image, and green practices in determining hotel guest satisfaction in Malaysia. By analyzing these factors, the study seeks to provide valuable insights for hotel managers on how to enhance service quality and sustainability efforts while strengthening brand reputation. Understanding these relationships can help hotels develop targeted strategies to improve guest experiences and maintain a competitive edge in the industry. The findings will contribute to the existing literature and offer practical recommendations for the Malaysian hospitality sector in addressing the evolving preferences of modern travelers. Given the increasing demand for services beyond basic offerings, a hotel's ability to deliver outstanding guest experience will be crucial for long-term success in today's highly competitive and globalized market.

2. Literature Review

Hotel Guest Satisfaction: Hotel guest satisfaction is a crucial factor in the hospitality industry, as it directly influences customer loyalty, word-of-mouth recommendations, and overall business success. According to Moreno-Perdigon (2021), satisfaction is defined as the guest's fulfillment response, where their expectations are met or exceeded by the hotel's services and amenities. Research has also indicated that green practices positively impact guest satisfaction, as environmentally conscious travelers appreciate hotels that align with their values (Abdou et al., 2021). Meanwhile, hotel guest satisfaction in Malaysia has been a key focus due to the country's thriving tourism and hospitality industry. According to Suryanarayanan et al. (2021), guest satisfaction in Malaysian hotels is significantly influenced by the quality of service, cultural hospitality, and the incorporation of modern technology in hotel operations. Additionally, factors such as personalized customer service, cleanliness, and food quality play a crucial role in shaping guest experiences (Khan, 2022). The Malaysian government has also taken various initiatives to improve the standards of hotel services, including the Malaysia Tourism Quality Assurance (MyTQA) program, which ensures that hotels maintain high service quality and sustainability practices (Samsudin & Fuza, 2021).

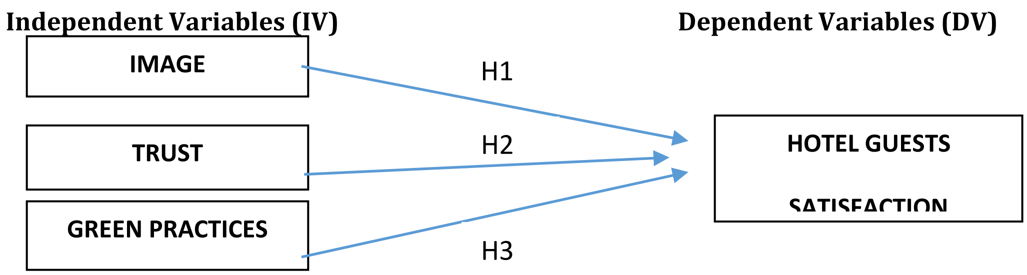
Green Practices in Hotels: The green concept has become increasingly relevant in recent years and is drawing the attention of businesses and consumers worldwide. In consideration of these occurrences, an increasing number of hotels are implementing green practices into their everyday operations to reduce their environmental impact. "Environmentally friendly, that is, doing business in a way that reduces waste, conserves energy, and generally promotes environmental health" is the definition given to these practices. Green practices are eco-friendly methods that incentivize hoteliers to establish environmental conservation and health programs, according to (Moise et al. (2021). Green practices are eco-friendly initiatives that are supported to enhance the hotel's reputation (Moise et al., 2021). They are designed to reduce adverse environmental effects to eventually ensure the long-term viability of hotels (Murimi, 2020). Specifically, the Malaysian government first introduced the concept in the Eighth and Ninth Malaysia Plans, and it was later expanded in the National Green Technology Policy (NGTP) in 2009 (Rahmat et al., 2022). The tourist sector in Malaysia has integrated the notion of sustainability following these rules. Although restaurants in hotels have been urged to implement environmental practices since the 1990s, including water efficiency, waste reduction and recycling, sustainable building materials and furnishings, sustainable food, and lowering energy, waste, chemicals, and pollution, there is little data on the adoption of these practices in hotel-restaurants (Green Restaurant Association, 2019).

Image: Image is widely regarded as a multidimensional construct, representing the collective sum of perceptions, impressions, and beliefs travelers hold regarding the various attributes, characteristics, and activities associated with a particular destination (Stylidis, 2022). Prior research has predominantly assessed the overall destination image through three interrelated components: the cognitive image, which pertains to an individual's knowledge and beliefs about a destination; the affective image, which reflects the emotional responses and feelings toward the destination; and the conative image, which encapsulates behavioral intentions and actions related to the destination (Králiková et al., 2020; Jebbouri et al., 2021). A positive hotel image directly impacts customer satisfaction, loyalty, and repeat business. Hotels with strong brand recognition and a good reputation are more likely to attract guests. Building a positive image requires outstanding service and effective marketing and branding. Guests prioritize sustainability, social responsibility, and unique experiences when choosing hotels. A well-crafted hotel image can differentiate a brand and contribute to long-term success.

Trust: Trust is a crucial component in circumstances with high degrees of ambiguity, such as those involving services. Trust is the willingness of consumers to depend on acquaintances with whom they have confidence (Balaji et al., 2019). Consumer trust, on the other hand, is defined as tourists' or guests' trust that the hotel has enough honesty and dependability to deliver the same level and quality of service in every exchange or encounter (Rather & Hollebeek, 2019). For tourists selecting green hotels, it is crucial to have certainty about the hotel's genuine commitment to environmental conservation (Moise et al., 2021). Consequently, trust in the environmental initiatives of green hotels becomes essential, as consumers may suspect that green practices are motivated more by cost-cutting or reputation enhancement than a true dedication to the environment (Tan et al.,2022)

The research framework includes two variables: the independent variable (IV) and the dependent variable (DV). The independent variables are listed as image, trust, and green practices, while the dependent variable is hotel guest satisfaction. Figure 1 shows the research framework of this study.

Figure 1: Research Framework



(Adapted from Moise et al,2021)

3. Methodology

This study employed a quantitative research design with a causal approach to examine the relationships between trust, brand perception, and green practices among Malaysian hotel guests. A structured survey instrument was used to collect data, ensuring a systematic and objective measurement of the study variables. The questionnaire was adapted from Moise et al. (2021) and included items relevant to green hotel experiences. A 5-point Likert scale was utilized, allowing respondents to indicate their level of agreement with each statement, ranging from 1 (strongly disagree) to 5 (strongly agree).

A non-probability sampling technique was employed to gather data efficiently from the target population. The population for this study consists of Malaysians aged 18 years and above, with no specific restrictions on gender, ethnicity, or location and who have prior experience staying at green hotels in Malaysia. This criterion ensured that participants could provide relevant insights into their perceptions and experiences with green hotels. Since the exact population size is unknown, convenience sampling will be used to select respondents who are easily accessible and willing to participate. Convenience sampling was chosen due to its ease of access and cost-effectiveness in reaching potential respondents. Hair et al. (2018) suggested that this method allows for quick data collection from individuals found in public areas, social media platforms, and online surveys. While this approach is cost-effective and practical, it may introduce sampling bias, limiting the generalizability of the findings. Therefore, results should be interpreted with caution, considering the non-random nature of the sample.

Data collection was conducted through an online survey using Google Forms to facilitate broader reach and higher response rates. The survey link was distributed via various digital platforms, including email, social media, and messaging apps, to ensure accessibility and ease of participation. The data collection period spanned from April to June 2024, allowing sufficient time to gather a comprehensive dataset for analysis. In total, 386 respondents completed the questionnaire. Before the full-scale survey, a pilot study was conducted to test the reliability and clarity of the questionnaire. A total of 30 participants, representing approximately 10% of the target sample, were selected to assess the survey's effectiveness. The results indicated that all variables had positive adjusted item-total correlations, confirming their validity for inclusion in the final analysis. Additionally, a Cronbach's alpha reliability test was conducted, yielding values between 0.60 and 0.80, which indicates an acceptable level of internal consistency for the instrument.

4. Findings

Respondents Demographic Analysis: This study looks at the demographic profile of respondents, as shown in Table 1. Of the respondents, 42.7% were male and 57.3% were female, with more females participating. The majority were Malay (63.7%), followed by Chinese (22.5%) and Indian (13.5%). Most respondents (65%) were aged 18-25, with smaller groups in other age ranges. Most respondents (60.6%) were students, followed by 31.3% employed, 7.3% self-employed, and 0.8% in other categories. Regarding income, 44.3% earned less than RM1,500, with others earning between RM2,201-RM2,900 (16.8%) and more than RM3,600 (14%). In education, 47.2% had a bachelor's degree, 37% a diploma, and 9.6% a master's degree. When booking hotels, 80.8% preferred online travel agencies, 15% used hotel websites and 4.1% booked by email. These findings help businesses understand consumer preferences and improve their strategies.

Table 1: Demographic Profile of Respondents

Variable	Categories	Frequency	Percentage (%)
Gender	Male	165	42.7
Age	Female	221	57.3
			65
	18-25	251	19.9
	26-35	77	6.2
	36-45	24	8.5
	55-65	33	0.3
	66 and above	1	
Race	Malay	246	63.7
	Chinese	87	22.5
	Indian	52	13.5
	Others	1	0.3
Employment Status	Student	234	60.6
	Employee	121	31.3
	Self-employed	28	7.3
	Others	3	0.8
Income	Less than RM1,500	171	44.3
	RM 1,500-RM 2,200	44	11.4
	RM 2,201-RM 2,900	65	16.8
	RM 2,901- RM 3,600	52	13.5
	More than RM3,600	54	14
Education Level	Diploma	143	37
	Bachelor's degree	182	47.2
	Master	37	9.6
	Others	24	6.2
Which online platform do you	Online Travel Agent	312	80.8
frequently use to purchase a	(Agoda.com, Booking.com,		
room	Expedia.com)	58	15
	Hotel Website	16	4.1
	E-mail		

Descriptive Analysis: Based on the descriptive analysis in Table 2, the results highlight strong support for hotels practicing green practices, particularly those that align with modern environmental concerns. The item with the highest average mean score (4.11) indicates that respondents strongly prefer hotels that use sensor/key cards, reflecting their desire for energy-saving measures that do not compromise convenience. Additionally, the use of energy-efficient equipment and products also received positive feedback, with a mean of 3.92. Guests also prefer refillable soap and shampoo dispensers, with a mean score of 4.05, underscoring the importance of reducing single-use plastics in the hotel industry.

Some green practices, like using reusable napkins and glass cups, received a lower score (Mean = 3.47), indicating that guests may not see them as a top priority compared to other green practices. While guests appreciate green initiatives, the impact of specific actions can vary. Regarding trust, respondents generally found the hotel's environmental commitment reliable (Mean = 3.99), but the consistency of its environmental performance was rated slightly lower (Mean = 3.74). This finding suggests that while guests trust the hotel's eco-friendly claims, they may question the consistent implementation of these practices.

The analysis shows that guests are generally satisfied with the hotels' environmental efforts, with a mean score of 3.97 for satisfaction. The highest satisfaction score of 4.02 indicates that guests are particularly happy when a hotel's environmental commitment aligns with their values, highlighting sustainability as a significant factor. However, these findings also suggest that hotels consistently apply their environmental practices to build trust and ensure that their claims are backed by visible actions that improve the guest experience.

Table 2: Descriptive Analysis

Items	Mean (M)	Average Mean	Std. Deviation (SD)
Green Practices			
I would prefer if the hotel used a sensor/ key card.	4.11		1.181
I would prefer it if the hotel used energy-efficient equipment and products.	3.92		1.085
I would prefer if the hotel used solar power as a greener energy source.	3.96	3.90	1.153
I would prefer refillable soap and shampoo dispensers in a hotel room.	4.05		1.192
I would prefer if the hotel used reusable items such as napkins and glass cups.	3.47		1.292
Trust			
I feel that this hotel's environmental commitment is generally reliable.	3.99		1.142
I feel this hotel's environmental performance is generally dependable.	3.74	3.90	1.047
I feel this hotel environmental argument is generally trustworthy.	3.92		1.144
This hotel's environmental concern meets my expectations.	3.96		1.133
Image			
The interior of the hotel is by its category.	3.93		1.110
This hotel is renowned for its good social behavior.	3.97	3.94	1.124
I can easily tell the difference between the hotels in this chain.	3.92		1.156
Satisfaction			
The choice of this hotel firm due to its environmental commitment makes me happy.	4.02		1.144
I consider it correct to stay in this hotel firm because of its environmental commitment.	3.93	3.97	1.109
I am satisfied with this hotel firm because of its environmental performance.	3.97		1.114

Correlation Analysis: The correlation analysis results demonstrated in Table 3 show a correlation between 4 variables with the Importance of Green Practices among Guests. Using the guidance of the Statistical Package for Social Sciences (SPSS) program, the data were analyzed and understood using inferential analysis. To support the study's goals and issues, the researchers will concentrate on two methods, which are multiple regression and the Pearson correlation coefficient.

Identifying a relationship between two distinct variables is the goal of the Pearson correlation coefficient. Determining the importance or degree of any relationship between the two variables is also required if one exists. The values of the Pearson correlation coefficient range from -1.0 to +1.0. Several +0.1 indicates a perfect positive link between the variables, whereas a value of -0.1 indicates a perfect negative relationship. If the correlation coefficient is zero, then there is no relationship between the variables.

The Pearson correlation coefficient value range, as shown in the table below, is between 0.90 and 1.00. The Pearson correlation coefficient for the image is (0.933), which is within the range of 0.90 to 1.00. As a result, there is a strong positive correlation with guest satisfaction. Furthermore, the values of the independent variables for green practices (0.957) and trust (0.947) are similarly within the 0.90–1.00 range. Thus, there is also a strong positive correlation between independent factors (image, trust, and green practices) and the dependent variable (satisfaction).

Table 3: Correlation Analysis

Correlations					
		DV	IV1	IV2	IV3
DV	Pearson Correlation	1	.933**	.947**	.957**
	Sig. (2-tailed)		.000	.000	.000
	N	385	385	385	385
Image	Pearson Correlation	.933**	1	.964**	.952**
	Sig. (2-tailed)	.000		.000	.000
	N	385	385	385	385
Trust	Pearson Correlation	.947**	.964**	1	.973**
	Sig. (2-tailed)	.000	.000		.000
	N	385	385	385	385
Green Practice	Pearson Correlation	.957**	.952**	.973**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	385	385	385	385

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

Hypothesis Testing: The hypothesis test results presented in Table 4 provide a clear evaluation of the proposed hypotheses and their corresponding outcomes. The table outlines whether each hypothesis was supported or rejected based on statistical analysis, offering valuable insights into the relationships between key variables. These findings help validate the study's theoretical framework and contribute to a deeper understanding of how the tested factors influence the research subject.

Table 4: Hypothesis Testing

Items	**Hypothesis**	**Result of Hypothesis**
H1	There is a positive relationship between the hotel's image and hotel guests' satisfaction.	Supported P = 0.00 < 0.05
H2	There is a positive relationship between the guest's trust and hotel guests' satisfaction.	Supported P = 0.00 < 0.05
H3	There is a positive relationship between green practices and hotel guests' satisfaction.	Supported P = 0.00 < 0.05

Discussion

Hypothesis 1 (H1) stated that there is a positive relationship between the hotel's image and hotel guests' satisfaction. According to Table 4, the hotel image obtained a significant value of 0.00, lower than 0.05. So, satisfaction has a significant relationship among hotel guests. According to the study, H1 is supported. Previous researchers used the cognitive image, affective image, and conative image components to measure the total destination image (Králiková et al., 2020; Jebbouri et al., 2022).

Hypothesis 2 (H2) stated that there is a positive relationship between guest trust and hotel guests' satisfaction. According to Table 4, the hotel trust obtained a significant value of 0.00, which is lower than 0.05. So, satisfaction has an important relationship with hotel guests. Accordingly, H2 is supported. For this reason, trust in the environmental measures that eco-friendly hotels employ is crucial. Researchers like (Balaji et al.,2019) have found significant empirical evidence to support the favorable impact of hotels' environmental practices on their guests' trust, which is "Willingness to rely on acquaintances that consumers are confident in" is the definition of trust.

Hypothesis 3 (H3) has indicated a positive relationship between green practices and hotel guests' satisfaction. According to Table 4, the green practices obtained a significant value of 0.00, which is lower than 0.05. So, satisfaction has an important relationship with the green practices of hotel guests. Accordingly, H3 is supported. In contrast, visitor trust relates to any level of trust that tourists and guests have in the hotel's ability to provide consistent, high-quality service throughout all interactions. According to previous research in the hospitality and tourism sector, behavioral intentions are highly impacted by trust and satisfaction (Rather & Hollebeek, 2019).

5. Conclusion, Limitation and Recommendation for Future Research

The study highlights the positive impact of hotels' green practices on hotel image, guest trust, and overall satisfaction. Findings confirm that green practices enhance a hotel's image, which in turn strengthens visitors' confidence and increases satisfaction. These results, consistent with previous studies, emphasize the crucial role of green practices in shaping guest perceptions, even in developing nations and major tourist destinations. Hotels that prioritize sustainable initiatives can significantly improve customer experience and differentiate themselves in the competitive market. This study underscores the importance of integrating sustainable practices into hotel operations, not only to enhance brand image but also to build trust with guests, fostering long-term customer satisfaction and loyalty.

However, the study has some limitations. Since hotel services are intangible, guests may find it challenging to assess green practices before their stay. Raising awareness through visible green initiatives, such as recycling bins and energy-saving measures, can help build guest trust. Additionally, while many hotels implement green practices, some guests may not be fully aware of their benefits. Hotels should focus on promoting these practices and educating customers about their positive impact on the environment and society.

Future research should explore customer perceptions in different geographic regions and various types of accommodations, such as resorts or motels. Expanding the study to include additional variables like guest loyalty, commitment, and prior experiences with green hotels would provide a more comprehensive understanding. Continued investigation into sustainable tourism practices will help hotels refine their green strategies and further enhance guest satisfaction. The findings provide valuable insights for hotel managers looking to improve service quality and gain a competitive edge in the growing green tourism sector.

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Examining Factors Influencing Adults' Repurchase Intentions in Green Restaurants: A Study in Klang Valley

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Abstract: Green restaurants are establishments that prioritize environmental sustainability by implementing practices such as reducing energy consumption, minimizing disposable product use, and curbing food waste. This study aims to investigate the factors within a modified Theory of Planned Behavior (TPB) framework that influence repurchase intentions toward green restaurants in the Klang Valley. Specifically, it examines how sustainable attitudes, price perceptions, and subjective norms affect consumer decisions while fostering greater awareness and understanding of green dining practices to promote environmental sustainability. A quantitative approach was adopted, surveying 390 Klang Valley residents with prior experiences at green restaurants. Purposive sampling was used to select participants, and data were collected through a structured questionnaire. The responses were analyzed using descriptive statistics, reliability testing, and multiple regression analysis via the Statistical Package for Social Science (SPSS). The findings revealed that all TPB variables, sustainable attitudes, price, and subjective norms, positively influence repurchase intentions, with sustainable attitude emerging as the most significant predictor. These results underscore the importance of fostering pro-environmental attitudes to drive consumer loyalty toward green restaurants. This study contributes to the limited body of research on green restaurants in Malaysia, offering practical insights for restaurant owners, policymakers, and community groups to integrate eco-friendly practices such as reducing paper waste, optimizing energy consumption, and adopting biodegradable disposables. Academically, the study serves as a foundation for future research, encouraging scholars and practitioners to further investigate the potential of green restaurants in advancing environmental sustainability.

Keywords: *Green restaurant, Repurchase intention, Theory of Planned Behavior, Sustainability, Klang Valley.*

1. Introduction

The practice of eating out is well-known in Malaysia due to the country's rising income levels and swiftly expanding restaurant industry. More than 64% of Malaysians dine out at least once a day, according to the Malaysian Food Barometer (MFB) report. Note that 64% of those who eat out have at least one meal, while the rest, 36%, eat at home (Poulain et al., 2020). Several restaurant practices, including increased energy use, increased food waste output, and increased use of non-recyclable materials, have contributed to this issue's environmental reduction. The natural environment in Malaysia produces large amounts of waste and generates different types of pollution in its daily operations.

In the meantime, eco-friendly practices and healthy eating have gained popularity in line with the growing sustainability trends. As a result, it has been determined that the restaurant industry is one of the least environmentally friendly economic sectors, and it is up to the restaurant industry to use green methods to lessen environmental problems (Higgins-Desbiolles et al., 2019). The previous study discussed green restaurants. However, the findings are still limited, meaning that the largest possible reasons are poor customer and community demand (Hui et al., 2018). In Malaysia, no specific environmental certification is presently available for restaurant owners to apply for and adhere to (Tan et al., 2016). As a result, even though supplying locally sourced and organic food is constantly promoted within the restaurant industry, no establishments have fully adopted overall green practices. The pressure on restaurants to change their efforts in the direction of the environmental discussion has decreased because of the Malaysian food service industry's ignorance about the need for green practices (Madanaguli et al., 2022). The implementation of green restaurants will require changing the amount of energy used, the use of disposable items, food waste, and many other practices.

People will begin to adopt the new norm of green practices in their lifestyle by starting where they would eat, according to the study's conclusion, by establishing a green restaurant (Li et al., 2024). Beyond eating a vegan diet for every meal, this new standard also involves reducing energy usage and switching to biodegradable food packaging (Nilsen-Nygaard et al., 2021). Malaysians would change their minds about implementing green restaurants and consider them one of the better options. This study believes it may be impossible for the potential green restaurant to adapt to all the green approaches, but the small changes will contribute greatly to climate change. Since Malaysia is still unfamiliar with green practices in the food and beverage industry, replacing their lifestyle with a healthier one may take a long time.

Langgat (2020) clarified in her study that Malaysia has limited green restaurants due to a lack of support from the locals, entrepreneurs, and even the government itself. However, the good news from McDonald's is that about 200 green restaurants will be established by 2025. In a previous study, Baloglu et al. (2020) admitted that implementing green restaurants would require larger capital for the owner and a burden for the customer to pay more because the restaurant owner would charge it expensively. Thus, this study aims to answer the following research objective:

RO1: To identify the relationship between sustainable attitudes and green repurchase intention.
RO2: To examine the relationship between price and the green repurchase intention.
R03: To examine the relationship between subjective norm and green repurchase intention.

2. Literature Review

The rise in environmental awareness has led to growing interest in sustainable practices across various industries, including the restaurant sector. As consumers become more environmentally conscious, businesses are compelled to adapt by implementing green initiatives to meet these evolving expectations. In the restaurant industry, green restaurants have emerged as a transformative approach, encompassing practices that reduce waste, conserve energy, and promote eco-friendly materials. Adopting green practices is particularly relevant in urbanized areas like Klang Valley, where the increasing demand for sustainable dining experiences highlights the importance of understanding consumer behavior (Han, 2021). To foster loyalty and encourage repurchase intentions, it is vital to identify the factors that drive consumer decision-making in green restaurants. The Theory of Planned Behavior (TPB) is a valuable framework for analyzing these factors, offering insights into how attitudes, social influences, and perceived control shape consumer intentions. This literature review explores existing research on green restaurants, the application of the TPB in understanding consumer behavior, and the key determinants of repurchase intentions. By synthesizing these perspectives, the review aims to identify research gaps and provide a theoretical foundation for examining the dynamics of sustainable dining in Malaysia.

Green Restaurant: A restaurant is a place of business where customers can select a meal to be prepared and served at a table. Customers pay for the restaurant, typically after their meal (Cambridge Dictionary, 2022). Although many restaurants offer takeout and food delivery services, meals are frequently served and consumed on the premises. Food from restaurants nowadays is also driven by a human decision to dispose of food (Obrist et al., 2024). According to Christ and Burritt (2017), the precise context is difficult to obtain since the restaurant industry is complex and diversified, with various sub-sectors targeting distinct consumer groups, each with unique operational and organizational characteristics that might affect the extent and scope of food waste produced.

Zou (2022) has defined a green restaurant as a restaurant that is ecologically friendly and takes steps to lessen its environmental effect by employing green practices such as recycling, adding vegan food options, reducing restaurant food waste, looking for other alternatives for energy sources and improving the ordering system for perishable items. A green restaurant controls the social and environmental effects of its operations, which include three crucial components: environmental sustainability, social responsibility, and economic viability (Higgins-Desbiolles et al., 2017). Numerous studies have struggled to define "green" qualities, and there is a lack of agreement among researchers, managers, and customers (Testa et al., 2024).

Serving organic food or drinks was one of the numerous green restaurant practices; however, total green practices were not commonly adopted among Malaysian restaurants (Tan et al., 2019). A bunch of green cafes can be found in Klang Valley, and Klang Valley is known as an urban area with a large population (Subramaniam et al., 2020). One of the purposes of most green practices found in urban areas is to improve green space networks on limited space in compact cities, expand existing green space, and make up the lost green space while allowing new improvement spaces (Hansen et al., 2019).

Theory of Planned Behavior: This study employs the TPB, developed by Icek Ajzen in 1991, to predict human behavior and behavioral intentions. The TPB is influenced by attitudes towards the behavior, subjective norms, and perceived behavioral control, collectively shaping an individual's behavioral intentions (Asare, 2015). This is a widely recognized framework for understanding and predicting human behavior, particularly in the context of decision-making processes. It posits that behavioral intentions are influenced by three key factors: attitude, subjective norm, and perceived behavioral control. However, to address the unique characteristics of green restaurants and the emerging trends in sustainable dining, the TPB framework has been modified for this study by incorporating price as a determinant alongside subjective norms and attitudes. The inclusion of price as a variable recognizes its critical role in consumer decision-making, especially in the context of green restaurants where products and services may be priced at a premium due to their sustainable practices. Price sensitivity can significantly influence consumer behavior and, in turn, their repurchase intentions. For instance, Lin et al. (2022) found that price sensitivity directly affects consumers' repurchase intentions in the context of sustainable products. By integrating price into the TPB model, this study provides a more comprehensive understanding of the economic considerations impacting sustainable dining choices.

Green Repurchase Intention: Purchase intention can be influenced by a lot of reasons, but surely, most of the reasons would be beneficial for the individual in many ways. Consumption behavior literature defines green products as products that include fewer natural resources, reducing the negative consequences of the environment and preventing waste (Policarpo & Aguiar, 2020). The consumer’s first impression of the green restaurant should be positive. Xu et al. (2020) discovered that experience has a strong positive relationship with repurchasing authentic green products. The previous two studies also have agreed that experience is strongly linked with behavioral intention that would lead a person to undergo the same experience over again, a behavior that has affected behavioral intention (Cai et al., 2019) as cited in Cheng et al. (2005) and Fazio et al. (1978). Xu et al. (2020) demonstrate in their writing that consumer behavior of having the intention to repurchase or revisit green restaurants or green products can be predicted if we can give a positive impression to them. However, awareness of the benefits of patronage of green restaurants contributes to repurchases or revisits.

Sustainable Attitude: The TPB provides a robust framework for understanding consumer attitudes and their subsequent intentions to repurchase from green restaurants. Shishan et al. (2021) highlight that positive attitudes toward green restaurants are pivotal in shaping dining intentions among British consumers, emphasizing that attitude is one of the key determinants in the decision-making process for dining at environmentally sustainable establishments. Similarly, Lee's study on the elderly population reveals that favorable attitudes toward green restaurants enhance perceived value and directly influence repurchase intentions, underscoring the importance of consumer attitudes in sustainable dining (Lee, 2024). Moreover, the role of perceived value in conjunction with consumer attitudes cannot be overlooked. Lu and Christina argue that dining experiences, particularly in organic settings, are not merely transactional but are influenced by the perceived value of the experience itself, which is shaped by contextual factors (Lu & Christina, 2018). This notion is echoed in the findings of Franzidis et al. (2023), who assert that students' attitudes toward sustainable dining initiatives are significantly influenced by their perceptions of value, further linking these perceptions to their behavioral intentions. The interplay between attitude and perceived value suggests that enhancing consumer perceptions of value in green restaurants could increase repurchase intentions.

Price: The relationship between price and repurchase intention in green restaurants is a critical aspect of consumer behavior, particularly within the framework of the TPB. Research indicates that price perceptions significantly influence consumers' intentions to return to green restaurants. For instance, Tan et al. (2022) highlight that the perceived value of green marketing components, including price, is vital in shaping consumers' attitudes toward dining in sustainable establishments, affecting their repurchase intentions. Similarly, studies by Doeim et al. (2022 emphasize that service value strategies, which encompass pricing, are essential for developing repurchase intentions among customers in the fast-food sector, suggesting that green restaurants must adopt similar approaches to enhance customer loyalty. Moreover, the concept of price fairness is particularly relevant in the context of green dining. Research by Riva et al. (2022) indicates that consumers' perceptions of price fairness directly impact their satisfaction and, consequently, their intention to revisit restaurants that implement sustainable practices. This aligns with findings from Mahmoud (2024), who asserts that a well-structured green marketing mix, including competitive pricing, is crucial for fostering repurchase intentions among environmentally conscious consumers. Therefore, it is evident that pricing strategies, when aligned with consumer perceptions of sustainability and value, can significantly enhance repurchase intentions in green restaurants. Besides that, modifying the TPB to include price as a determinant enhances the model's applicability to the green restaurant industry. This approach provides a nuanced understanding of how economic, social, and personal factors interact to influence adults' repurchase intentions in Klang Valley, offering valuable insights for stakeholders in sustainable dining.

Subjective Norm: Subjective norms, as defined by the TPB, play a crucial role in shaping consumers' repurchase intentions in green restaurants. Research indicates that subjective norms—essentially the perceived social pressure to engage in a behavior significantly impact consumers' intentions to return to environmentally sustainable dining establishments. For instance, Al-Swidi et al. (2014) found that subjective norms directly and significantly affect buying intentions, reinforcing the idea that social influences can shape consumer behavior in the context of organic food consumption, which parallels the dynamics in green restaurant settings. Similarly, Wang's (2023) study highlights that subjective norms positively regulate the relationship between perceived social value and green food repurchase intentions, suggesting that social influences can enhance consumers' commitment to sustainable dining practices.

Furthermore, Wongsaichia et al. (2022) demonstrate that subjective norms significantly influence purchase intentions for green food, indicating that consumers are more likely to return to green restaurants when they perceive that their social circles support such choices. This is echoed in the findings of Riva et al. (2022), which emphasize that environmentally conscious consumers often feel pressured by their peers to choose eco-friendly dining options, thus linking subjective norms to their revisit intentions (Riva et al., 2022). Overall, the evidence suggests that fostering a supportive social environment around sustainable dining can enhance repurchase intentions, making subjective norms a vital consideration for green restaurant marketing strategies.

3. Methodology

This study employed a non-contrived and explanatory research design, utilizing convenience sampling to achieve its objectives. This study focuses on correlation analysis to provide an understanding of the relationships among the variables that address the problem statement. A cross-sectional design was adopted to capture data at a specific point in time and examine the association between factors influencing green restaurant repurchase intentions.

The sample consisted of individuals who had experience dining at green restaurants in the Klang Valley. To ensure the inclusion of green restaurants that align with sustainable practices, the criteria for selection included the use of organic ingredients, recyclable or biodegradable materials, and eco-friendly settings or decorations. These initiatives include using sustainable packaging, energy efficiency measures, sustainable sourcing, and waste reduction strategies. Additionally, respondents were provided with a clear definition of a green restaurant within the survey instrument to ensure consistent understanding. The questionnaire explicitly explained that green restaurants implement practices to reduce environmental impact and promote sustainability. The green restaurants included in this study from Klang Valley are RGB Café, Ashley's by LivingFood, The Hive Bulk Foods, Sala KL, and Fittie Sense. Additionally, McDonald's is included due to its recent efforts to embrace more environmentally friendly practices. The study population was restricted to Malaysians residing in the Klang Valley, which includes Kuala Lumpur, Putrajaya, and key cities in Selangor such as Petaling Jaya, Shah Alam, Klang, Gombak, Hulu Langat, and Sepang. The population size of the Klang Valley was approximately 8,420,000 as of 2022. Following Krejcie and Morgan's table, the required sample size for this population was 384. This study achieved a total of 390 valid responses, exceeding the minimum sample size requirement. The sample size was calculated based on 13 survey items, ensuring statistical adequacy for the analysis.

Primary data were collected using a structured questionnaire based on the variables identified at the beginning of the study. The data collection method employed was quantitative, allowing numerical data analysis to understand relationships and trends. The questionnaire was distributed online using platforms such as Google Forms and shared via WhatsApp, Telegram, Facebook, and Instagram to maximize reach and participation. Purposive sampling was adopted for this study, and a filter question was included to ensure respondents met the criteria: being residents of the Klang Valley and having experience dining at green restaurants. Respondents who answered "no" to either criterion were excluded from the survey. The survey questions were adapted from validated sources, as detailed in Table 1 and measured variables using Likert scales and importance ratings. The instrument was designed to be simple and clear, incorporating Bahasa Malaysia and English to minimize misunderstandings. Before the main survey, a pilot test was conducted to assess the reliability of the questionnaire. Cronbach's alpha values confirmed the internal consistency of the items, ensuring their reliability for further analysis. The collected data were processed and analyzed using the Statistical Package for Social Science (SPSS) version 27. Reliability analysis using Cronbach's alpha was performed to verify the consistency of the measurement items. Descriptive statistics were generated to summarize demographic data and responses. Multiple regression analysis was employed to test the relationships among the variables in the study's framework.

Initially, the TPB was utilized to frame the study. However, the omission of the perceived behavioral control variable was noted. Future iterations of this research should incorporate this variable or consider alternative frameworks that align with the study objectives. The final framework included variables demonstrating their interrelatedness in influencing green repurchase intentions. Ethical approval was obtained before data collection, and respondents provided informed consent. Participation was voluntary, and anonymity was maintained throughout the research process. The study's methodology adhered to ethical standards to ensure the integrity and credibility of the findings.

Table 1: Measurement items for study variables.

Variables	Measurement items	Alpha	Sources
Sustainable Attitude	Engage in recycling practices to recycle glass, metal, plastic, cardboard, mixed paper, and other recyclable items. Serve sustainable food products such as organic or locally grown foods. Prevent pollution through reduction at source, reuse or improving operational practices. Use recycled, tree-free, biodegradable, and organic products for dishware, spoons, chopsticks, containers, etc.	0.780	Chen et al. (2014)
Price	I am willing to pay more for dining in a green restaurant. If the price of dining in a green restaurant is less expensive, I'm willing to change my lifestyle by patronizing green restaurants. I would choose green restaurants if the prices were similar.	0.602	Suki (2013)
Subjective Norm	Most people who are important to me would want me to select a green restaurant for a meal. People whose opinions I valued would prefer that I select a green restaurant for a meal. My friend's positive opinion on green restaurant influences me to select it for a meal.	0.809	Paul et al. (2016)

4. Findings and Results

The researcher has utilized four weeks for the whole data collection process. A total of 390 responses have been received for the present study. Of the number of responses, 125 are male, and the rest are 265. The frequency age group of the respondents was 18-29 years old, with 86.7%. Among the respondents, 77.4% are single, and the other 22.6% are married. For the income level, 41.3% of them were less than RM1000, 23.8%

were RM1,000-RM1,999, 18.2% were over RM2,000 until RM2,999, 11.3% were between RM3,000 and RM3,999, 3.6% was over RM5,000 and above, and the minor with 1.8% which is RM4,000 until RM4,999. A total of 285 respondents informed that the frequency of them to dine out was 1-2 days a week, 74 respondents dine out 3-4 days per week, 16 respondents dine out 5-6 days per week, and only 15 respondents dine out frequently.

Table 2: Demographic Characteristics

Demographic characteristics		Frequency	Percentage of sample
Gender	Male	125	32.1%
	Female	265	67.9%
Age	18-29 years old	338	86.7%
	30-39 years old	39	10%
	40 and above	13	3.3%
Marital status	Single	302	77.4%
	Married	88	22.6%
	Divorced	-	-
Income level	RM1,000-RM 1,999	93	23.8%
	RM 2,000-RM 2,999	71	18.2%
	RM 3,000-RM 3,999	44	11.3%
	RM 4,000-RM 4,999	7	1.8%
	RM 5,000 and above	14	3.6%
	Less than RM1000	161	41.3%
Frequency of purchase at the Green Restaurant per week	One or two days a week	285	73.1%
	Three days a week	74	19%
	Five to six days a week	16	4.1%
	Frequent	15	3.8%

Normality analysis

Based on the normality analysis presented in Table 3, the skewness and kurtosis values for all variables fall within acceptable ranges for normal distribution. A dataset is generally considered approximately normal if skewness values lie between -1 and +1 and kurtosis values lie between -2 and +2 (George & Mallery, 2019).

Table 3: Summary Normality Analysis

Variables	Skewness	Kurtosis
Green Repurchase Intention Sustainable	-0.797	0.536
Attitude	-1.102	0.839
Price	-0.919	1.345
Subjective Norm	-0.796	0.257

Multiple Regression Analysis

To test the study's hypothesis, the researcher used standard multiple regression. Additionally, it is carried out to test the relationship between the variables in the research framework. The variables that significantly impact green repurchase intention were those with a significant value of 0.05, according to the analysis. The results of the multiple regression are summarized in the table below. The skewness and kurtosis values suggest that the data is approximately normal for most variables, making it suitable for parametric statistical analyses. While the variable "Attitude" shows slightly higher skewness, it is still within acceptable limits for most practical purposes. This supports the use of statistical methods such as multiple regression or correlation analysis, as the assumption of normality is reasonably met.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.618[a]	.382	.377	.63724

Predictors: (Constant), Section F, Section D, Section E
Dependent Variable

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96.830	3	32.277	79.485	<.001[b]
	Residual	156.744	386	.406		
	Total	253.574	389			

a. Dependent Variable: Section C
b. Predictors: (Constant)

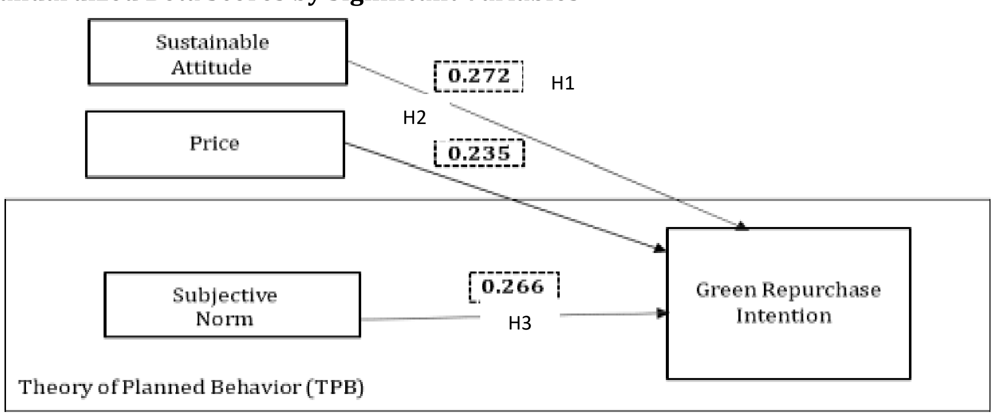
Table 6: The Effect of Factors of Sustainable Attitude, Price, and Subjective Norm on Green Repurchase Intention

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.658	.222		2.961	.003
	Sustainable Attitude Factor	.275	.064	.272	5.960	<.001
	Price Factor	.261	.058	.235	4.543	<.001
	Subjective Norm Factor	.274	.050	.266	5.478	<.001

a. Dependent Variable

Based on Table 4, the R Square (R^2) value indicates how much of the variance in the dependent variable was explained to the researcher. From the result in Table 4, the R^2 value is .382. The value clarified that a 38.2% variation in all three independent variables, which are sustainable attitude, price and subjective norm, has a significant relationship with green repurchase intention.

Figure 1: Standardized Beta Scores by Significant Variables



Multiple regression was utilized to examine the direct study link (see Figure 1 & Table 6). The summarized results in Table 6 indicate that a sustainable attitude significantly influences repurchase intention (β = 0.272; P = 0.001). When the sustainable attitude improved by one standard deviation, the individual's repurchase intention rose by 0.233, supporting H1. Simultaneously, a price increase of one standard deviation resulted in a 0.235 increase in felt social pressure (β = 0.235; P = 0.001), corroborating H2. The subjective norm was shown to be statistically significant about the individual's repurchase intention, hence supporting H3. When the subjective norm increased by one standard deviation, the intention to repurchase rose (β = 0.266; P = 0.001).

Table 7: Hypothesis Testing

Items	Relationship tested	Beta score	Std. error	*P*
H1	Sustainable attitude ➡ repurchase intention	0.272	0.064	0.001
H2	Price ➡ repurchase intention	0.235	0.058	0.001
H3	Subjective norms ➡ repurchase intention	0.266	0.50	0.001

The result retrieved from multiple regression analysis indicates that all TPB variables have a significant relationship towards the repurchase intention at a green restaurant, where all the variables received 0.001 as their p-value. The first objective of this research is to identify the relationship between sustainable attitude and the repurchase intention towards green restaurants. According to the result of multiple regression tests, a sustainable attitude earned 0.272. Even though the beta score is a bit lower, this research objective is still significantly accepted. The beta score represents that 27.2% of the respondents agreed on this dependent variable. However, the discrepancy would happen because 27.2% of the respondents agreed that a sustainable attitude would lead people to their repurchase intention towards green restaurants, and the other 72.8% disagreed with that concept.

The second research objective examines the relationship between price and the repurchase intention towards green restaurants. After the data was tested on multiple regression for the relationship of price with repurchase intention towards green restaurants, the result was 0.235. The research objective is still accepted even though the beta score is a bit low. One study agrees with the result where they stated money is not a concern if consumers voluntarily engage in pro-environment actions or purchase green products (Chia et al., 2018). So, it is proven here that Klang Valley residents do not care much about the price since the location is in an elite region of Malaysia. However, it is acceptable if 23.5% of respondents said that price concerns them because, in the elite region, there would still be non-elite residents living in Klang Valley.

The last research objective examines the relationship between subjective norms and repurchase intention toward green restaurants. The beta score on multiple regression indicates 0.266 or 26.6%. According to the result, it can be predicted with a low probability that residents in Klang Valley disagree that the subjective norm would encourage them to repurchase at green restaurants. After all, the relationship between the subjective norm and repurchase intention is still significant. It is comprehensible if the subjective norm does not work much because it is difficult for some people to move into a healthy lifestyle. They may get used to their normal norm. It requires a lot of effort and determination from that person. Therefore, it is reasonable for 73.4% of respondents to disagree with how the subjective norm works to create an intention to repurchase at the green restaurant.

Discussion

The results presented in Table 6 provide compelling evidence supporting the relationships posited in the TPB regarding sustainable attitudes, price perceptions, subjective norms, and their influence on repurchase intentions in green restaurants. Specifically, the significant positive relationship between sustainable attitude and repurchase intention (β = 0.272; P = 0.001) underscores the importance of fostering a positive consumer attitude towards sustainability in dining contexts. This finding aligns with recent research by Wang (2023), which indicates that consumers' subjective norms play a positive regulatory role in the relationship between perceived social value and green food repurchase intentions, reinforcing the idea that positive attitudes towards sustainability can enhance consumer behavior in green dining settings. Furthermore, the increase in repurchase intention by 0.233 with a one standard deviation improvement in sustainable attitude suggests that targeted marketing strategies promoting sustainability can effectively influence consumer behavior.

Additionally, the results indicate that price significantly affects felt social pressure (β = 0.235; P = 0.001), supporting the hypothesis that pricing strategies can shape consumers' perceptions of social norms related to green dining. This is consistent with findings from Yasri et al. (2020), who highlight that price perception significantly influences repurchase intentions, indicating that consumers are sensitive to pricing in the context of sustainable dining. The significant relationship between subjective norms and repurchase intention (β = 0.266; P = 0.001) further emphasizes the role of social influences in consumer decision-making. Recent studies, such as those by Loh and Hassan (2021), have shown that subjective norms, particularly the approval of friends and family, are crucial determinants of repurchase intentions, suggesting that social influences can significantly enhance consumers' commitment to sustainable dining practices. Collectively, these findings suggest that green restaurants should focus on enhancing sustainable practices and consider the pricing strategies and social influences that can drive consumer repurchase intentions.

For the evaluation of Research Objectives and Questions, **Objective 1:** To identify the relationship between sustainable attitude and repurchase intention. The results strongly support the hypothesis that a sustainable attitude positively impacts repurchase intention ($\beta = 0.272$, $p < 0.001$). This finding confirms that individuals with pro-environmental attitudes are more inclined to revisit green restaurants. Despite a notable portion of respondents expressing indifference, the significance of sustainable attitudes underscores the necessity for green restaurant operators to foster awareness of sustainability benefits. **Objective 2:** To examine the relationship between price and repurchase intention. The study confirms that price significantly influences repurchase intentions ($\beta = 0.235$, $p < 0.001$), albeit to a lesser extent than sustainable attitude. The lower beta score suggests that while price is a consideration, it may not be a barrier for many Klang Valley residents, particularly those accustomed to higher living costs. This outcome highlights the importance of balancing affordability with sustainability to cater to diverse socioeconomic groups. Furthermore, **Objective 3:** To analyze the influence of subjective norms on repurchase intention. Subjective norms also exhibit a significant positive relationship with repurchase intention ($\beta = 0.266$, $p < 0.001$). However, the modest effect size indicates that while social influence matters, it may not be a decisive factor for consumers in Klang Valley. This suggests opportunities for green restaurants to leverage social campaigns or peer influence to further enhance their appeal.

The findings validate the applicability of the TPB framework in examining green consumer behavior within an urban Malaysian setting. Practically, the study emphasizes the importance of emphasizing sustainability in marketing strategies. Green restaurant operators should focus on enhancing customer awareness of the environmental impact of their choices, as attitudes remain the strongest driver of repurchase intentions. Moreover, strategies to improve affordability without compromising sustainability could attract a broader audience, while social campaigns targeting subjective norms can encourage greater community engagement. These insights are particularly valuable given the scarcity of research on green restaurants in Malaysia, addressing a critical gap in the literature.

This study provides novel insights into the determinants of green restaurant repurchase intentions in Klang Valley, contributing to the limited literature on sustainable dining in Malaysia. By integrating sustainable attitudes, price considerations, and subjective norms within the TPB framework, this research offers a holistic understanding of the factors influencing consumer loyalty. These findings advance academic knowledge and provide actionable recommendations for green restaurant operators and policymakers aiming to promote environmental sustainability.

5. Conclusion and Recommendations

This study's findings reinforce TPB's relevance in understanding consumer behavior in green restaurants. The significant relationships identified between sustainable attitudes, subjective norms, and repurchase intentions highlight the multifaceted nature of consumer decision-making in the context of sustainable dining. Specifically, a positive, sustainable attitude was shown to enhance repurchase intentions, while subjective norms exerted a significant influence on consumers' willingness to return to green restaurants. These results align with existing literature, emphasizing the importance of social influences and personal attitudes in shaping consumer behavior toward sustainable practices (Shishan et al., 2021; Lee, 2024). Moreover, the interplay between price perceptions and social pressures further complicates the decision-making process, indicating that consumers are not only motivated by personal beliefs but also by the expectations of their social circles. This suggests that green restaurants must consider internal and external factors when developing marketing strategies to increase customer loyalty and repurchase intentions.

Based on the findings, several recommendations can be made for green restaurants aiming to enhance repurchase intentions among consumers: 1) Enhance Sustainable Practices: Green restaurants should continue to improve and promote their sustainable practices. Marketing efforts should focus on educating consumers about the environmental benefits of their dining choices, thereby fostering positive attitudes towards sustainability (Wang, 2023; Lee, 2024). 2) Leverage Social Influence: Restaurants can utilize social media and community engagement to create a supportive environment that encourages sustainable dining. By showcasing customer testimonials and encouraging word-of-mouth promotion, restaurants can enhance the perceived social norms surrounding green dining (Shishan et al., 2021; Wongsaichia et al., 2022). 3) Implement Competitive Pricing Strategies: To mitigate the potential negative impact of price on repurchase intentions, green restaurants should consider competitive pricing strategies that reflect the perceived value of their sustainable offerings. This could include loyalty programs or discounts for repeat customers, enhancing the overall dining experience and encouraging return visits (Damit et al., 2019). 4) Foster Community Engagement: Engaging with local communities through events or partnerships can strengthen the social ties influencing consumer behavior. By positioning themselves as community-oriented establishments, green restaurants can enhance their appeal and encourage repeat patronage (Lee, 2024; Zahra, 2020). Lastly, 5) Monitor and Adapt to Consumer Feedback: Continuous consumer satisfaction and feedback assessment is vital. Restaurants should implement mechanisms to gather customer insights regarding their experiences, which can inform improvements in service quality and overall dining experience (Hidayat et al., 2020; Bedua-Taylor et al., 2022). By adopting these strategies, green restaurants can effectively enhance consumer attitudes and subjective norms, ultimately leading to increased repurchase intentions and fostering a loyal customer base committed to sustainable dining practices.

Besides these strategies, local authorities and policymakers also play a pivotal role in supporting the growth of green restaurants. By implementing regulations that incentivize sustainable practices, such as tax benefits for green-certified establishments or subsidies for eco-friendly materials, they can create a conducive environment for sustainable dining to thrive. Community initiatives, such as public awareness campaigns and collaborations with green businesses, can also normalize and embed eco-friendly practices in everyday life. Furthermore, the media is vital in amplifying the sustainability narrative, showcasing the environmental and health benefits of green dining through compelling storytelling and widespread coverage.

From an academic perspective, this study contributes significantly to the limited literature on green restaurants in Malaysia. The use of the modified TPB offers a robust framework for understanding consumer behavior, providing a theoretical foundation for future research. However, the study's focus on Klang Valley limits the generalizability of its findings to the broader Malaysian population. Future research should expand to include diverse regions and explore additional variables, such as environmental awareness, perceived quality, and cultural influences, to provide a more comprehensive understanding of consumer behavior. Comparative studies across different demographics and regions could also offer valuable insights into how green practices can be tailored to meet the needs of varied consumer segments.

This study acknowledges several limitations that provide avenues for future research. First, it focused solely on Klang Valley, potentially limiting the generalizability of the findings to other regions in Malaysia. Expanding the study to a nationwide sample would enhance the robustness of the results. Second, the research examined only three variables: sustainable attitudes, price, and subjective norms. Incorporating additional factors, such as environmental awareness, perceived quality of green products, and marketing effectiveness, could provide a more nuanced understanding of consumer repurchase intentions.

Finally, while green practices are gaining momentum, they remain underexplored in the Malaysian context. Future studies could investigate long-term consumer behavior changes and assess the financial and operational impacts of green practices on restaurant profitability. Such research would contribute to the academic literature and guide businesses in navigating the transition to sustainable operations effectively. This study emphasizes the untapped potential of green restaurants in Malaysia. By addressing barriers, leveraging consumer education, and fostering a culture of sustainability, green restaurants can position themselves as pioneers in the eco-friendly dining sector. It is hoped that these findings inspire restaurant operators, policymakers, and researchers to collaborate toward a sustainable future where dining choices benefit individuals and the environment.

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Digital Menus and Customer Revisit Intentions: Insights from Klang Valley Restaurants Using an Extended TAM Framework

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Abstract: The study investigates the effect of digital menus on customers' revisit intention to restaurants within Klang Valley, employing the Technology Acceptance Model (TAM). Although digital menus improve convenience by enabling customers to explore options and access information, challenges such as privacy concerns and usability, especially for the elderly, remain prevalent. A quantitative study online was conducted with 122 respondents who had experience using digital menus at various restaurants in Klang Valley. This study examined consumer acceptance about perceived security, usefulness, ease of use, and enjoyment, and how these factors affect their tendency to return. The study demonstrates that perceived enjoyment significantly affects intentions to revisit, although security, usefulness, and ease of use do not. This indicates that customer satisfaction is primarily influenced by the enjoyment derived from the ordering experience rather than practical considerations. Future research should identify ways to improve the digital dining experience, particularly for individuals facing usability difficulties.

Keywords: *Digital menu, Technology Acceptance Model (TAM), perceived security, perceived enjoyment*

1. Introduction

Digital technology has opened up new opportunities, including digital product developments, services, and business models. A restaurant is a food service establishment that serves various food and beverages to patrons via menu cards. However, with the rapid development of self-service technologies, the restaurant is no stranger to digital menus because restaurateurs have installed different self-service technologies (Lin et al., 2021). Digitalized menu design has kept up with technological advancements and is a now popular strategy restaurants use to draw in new business and keep existing patrons (Khan et al., 2020).

The COVID-19 pandemic has significantly impacted digitalization (McCain et al., 2022). The pandemic has boosted the digital transformation of many services, including healthcare, and access to medical care using teleconsultation has increased rapidly (Baudier et al., 2022). Given the pandemic restrictions, Iskender et al. (2022) noted how restaurant customers were more inclined to use digital menus in their dining experiences. Overall, the COVID-19 pandemic has expedited the use of digital technology, especially digital menus, and transformed how people work, learn, interact, and shop (Paszkiewicz et al., 2021).

Although there are benefits associated with implementing technology in an organization, operators and customers also encounter some limitations and challenges with these technologies. Based on the impact of digital menus, there are concerns regarding potential barriers, such as privacy concerns, technology literacy, and cultural differences, which pose challenges to the seamless integration of digital menus into diverse dining environments (Ozturkcan and Kitapci 2023). The growing sophistication of digital menus often translates to increased data collection, encompassing menu choices and order history, browsing patterns, dwell time on specific items, and even facial recognition data for personalized recommendations. On the other hand, many elderly experience problems (like poor vision or a diminished sense of touch) or the inability to remember past information (such as unique motions or soft keyboard typing). Because of this, many seniors are unable to make use of the abundance of digitalization that is accessible to support their everyday activities (Paez and Río, 2019).

Based on previous studies, the Technology Acceptance Model (TAM) is an intention-based model designed to explain and anticipate user acceptance of computer technology. Its most common applications are in the explanation of factors influencing user acceptance and the usage behavior related to the adoption of these new technologies. According to Bawazir et al. (2023), the evident ease of use of digital menus has been a driving force behind its recent rapid expansion in Klang Valley restaurants, especially in the aftermath of COVID-19's impact on the food and beverage industry. Most digital menu studies use TAM to measure customers' acceptance. This study applied a modified version of the TAM to investigate the effects influencing customers' acceptance of this technology. The TAM is a theoretical framework widely used to understand the adoption of smart technologies in various industries, including hospitality and tourism. Therefore, this study aims to empirically examine the effect of customer acceptance (perceived security, perceived usefulness, perceived ease of use, and perceived enjoyment) of digital menus on their intention to revisit the restaurant. This study fills a gap in existing literature by evaluating technology acceptance in a previously under-researched region and cultural context, such as age and cultural differences in technology acceptance. The findings contribute to creating digital menus that prioritize security and user-friendliness while being engaging and enjoyable to enhance customer satisfaction and loyalty.

2. Literature Review

Technology Acceptance Model: According to Davis (1989), TAM identifies key factors influencing users' acceptance of new technology, including attitude, perceived usefulness, and perceived ease of use. Davis conceptualized "perceived ease of use" as the belief that using a system will require minimal effor~~t,~~ and "perceived usefulness" as the belief that using the system will improve performance. It is important to note that these constructs reflect users' subjective perceptions rather than the objective attributes of the technology itself (Davis, 1989). As highlighted by Labus and Jelovac (2022), technology acceptance depends more on users' evaluations of its value than on its actual capacity to enhance performance.

Venkatesh et al. (2003) developed the unified theory of acceptance and use of technology (UTAUT) to address the inadequacies in the TAM model. UTAUT identifies four key variables: performance expectancy, effort expectancy, social influence, and enabling factors that impact behavioral intentions and the utilization of a technology (Venkatesh et al., 2003). For instance, Garg (2021) applied the UTAUT model to examine customers' acceptance of tablet-based menus in casual dining restaurants. The findings revealed that technology use enhances the ordering experience, with most respondents expressing positive perceptions of modern technologies. To study customer acceptance and behavioral intentions regarding a digital menu, this study explores the influence of perceived security and perceived enjoyment.

Perceived Security: The COVID-19 pandemic has substantially altered how people interact with one another, leading to an increased reliance on technology in various aspects of everyday lives. Research by Seo and Lee (2021) indicates that when faced with new technology, customers may experience high psychological risk, including fear, hesitancy, and negative emotions. From this perspective, the perceived risk is strongly interrelated in the digital menu. Labus and Jelovac (2022) stated that there have always been some factors, for instance, the perception of risk due to privacy concerns. This study is also supported by Toqeer et al., (2021), who stated that any transaction via e-commerce, such as the digital menu system, may have a privacy data concern, for instance, the consumers' identification, home address, name, and location. As digital menus are a system designed to handle food ordering activities and all decisions are recorded automatically without any human contact, customers should assess the perceived security generated from the performance of that digital menu automation system. As a result, the risk of consumers incurring monetary losses while using digital menus at restaurants increases (Bawazir et al., 2023). The recent pandemic in Malaysia poses a risk of disease transmission through physical contact (Bawazir et al., 2023). In post-pandemic society, it is suggested that restaurants prioritize the implementation of automated food ordering systems such as digital menus. These services could lead to more socially distant ordering and a more hygienic food ordering procedure (Han et al., 2021). Furthermore, according to Seo and Lee (2021), perceived security can create uncomfortable feelings, which influence customers' behavioral intentions to revisit the restaurant.

Perceived Usefulness: Labus and Jelovac (2022) highlighted the effectiveness of TAM in explaining how hospitality and tourism customers, as well as staff, accept new smart technologies. Perceived usefulness is the "extent to which a technology is expected to improve a potential user's performance" (Khan and Abideen, 2023). In addition, customers can place orders and add extra products whenever they want with a digital menu, and the full self-service mode expedites the meal ordering procedure significantly (Şahin, 2020).

Cho et al. (2019) defined perceived usefulness as the ability of innovative mobile food ordering applications, such as digital menus, to help consumers efficiently achieve their desired outcomes. Digital menus enable customers to place orders, receive real-time updates, and make payments directly from their tablets, streamlining the dining experience (Brewer and Sebby, 2021). This enhanced convenience and efficiency emphasize the usefulness of the technology, which can significantly influence customers' behavioral intentions and encourage them to revisit the restaurant.

Perceived Ease of Use: Many researchers have studied the effect of perceived ease of use in digital menus. They are extremely beneficial today because they enable people to access information quickly and effortlessly (Mapaly et al., 2023). Perceived ease of use significantly influences consumer purchase decisions, making marketing outcomes convenient (Bawazir et al., 2023). With advances in digital menus, the food and beverage industries have started to explore new methods to influence consumers (Şahin, 2020). Customers prefer mobile applications in restaurants because they are simple, convenient, and fast (Alalwan, 2020). According to Khan & Abideen (2023), perceived ease of use simplifies technology, making it easier to understand. It is essential to understand that 'perceived usefulness' and 'perceived ease of use' are subjective evaluations by technology users, not objective qualities of the technology (Labus and Jelovac, 2022).

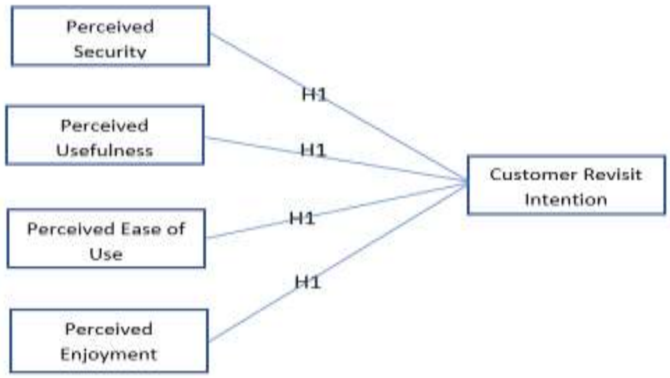
The appealing features of digital menus encourage customers to develop a positive attitude toward ordering and delivering food via mobile apps (Al Amin et al., 2023). Therefore, restaurant operators need to understand and effectively utilize information technology in managing customers' meal orders, while customers must adapt to the modification since they differ from traditional methods. According to Mois and Beer (2020), perceived ease of use simplifies technology, making it more accessible to users. A recent experimental study compared traditional menus to tablet-based digital menus and found that they not only enhanced enjoyment but also increased the intention to adopt this technology, resulting in customers ordering more in a shorter time (Yim and Yoo, 2020). This research implies that customers have behavioral intentions to revisit the restaurant.

Perceived Enjoyment: Hasan et al. (2021) stated that perceived enjoyment is an individual's natural reward for using a particular system. Similarly, Sudono et al. (2020) believe that perceived enjoyment describes how much enjoyment may be had from applying the system as represented. Labus and Jelovac (2022) also emphasize that perceived enjoyment is the fun or pleasure of using technology. Perceived enjoyment describes how an individual might feel at ease and enjoy applying a particular system and regard their participation in such technology as an enjoyable experience (Paramita and Hidayat, 2023). According to Tan (2021), consumer decision-making is influenced by the interactive design of digital menus. This variable considers the emotional component of using technology (Kim et al., 2023). Foroughi et al. (2024) further explain that when people are happy with the first enjoyable expectation, their favorable opinion toward the technology or service develops, and they are more likely to use it in the future. From this perspective, we can see that when customers enjoy using digital menus, they are more likely to use them in restaurants. In addition, Lin et al., (2023) illustrate that digital menus use modern technology to allow customers and chefs to engage visually and verbally. The interactive aspects of digital menus inspire emotions of pleasure, enjoyment, and happiness, which may increase users' behavior and attitudes (Mohamed et al., 2022). Consequently, this led to positive behavioral intentions towards digital menus in the restaurant.

Behavioral Intention to Revisit: Mohamed et al. (2022) discuss that behavioral intentions include loyalty, swapping intentions, willingness to pay more, and responding internally and externally. Behavioral intention refers to an individual's intent to utilize a particular technology. In this study, the dependent variable is behavioral intention. Behavioral intention relates to an individual's subjective possibility to carry out a given behavior (Venkatesh et al., 2012). The TAM has been modified to include more theoretical constructs, which explain behavioral intention and actual technology use, which are the outcome variables in this framework (Labus and Jelovac, 2022).

Study Framework: Based on the literature review of a previous study, the proposed framework presented in Figure 1 highlights that the extended TAM (perceived security, perceived usefulness, perceived ease of use, and perceived enjoyment) of using digital menus are the key factors affecting customer revisit intention at the restaurant in Klang Valley.

Figure 1: Study Framework



Hypotheses:
H1: Perceived security of the digital menu has a significant positive effect on customer revisit intention
H2: Perceived usefulness of the digital menu has a significant positive effect on customer revisit intention
H3: Perceived ease of use of using the digital menu has a significant positive effect on customer revisit intention.
H4: Perceived enjoyment of using the digital menu has a significant positive effect on customer revisit intention

3. Methodology

Research Design: This study employed a quantitative, correlational research approach to investigate the effect of perceived security, usefulness, ease of use, and enjoyment of digital menus on their revisit intention. The study was conducted in a cross-sectional design, with data collected at a single point in time.

Sampling: In this context, "customers" refers to individuals who visit restaurants in Klang Valley and have experience using digital menus for menu ordering. Since the population size is unknown, this study employed a non-probability convenience sampling technique. Convenience sampling was chosen because it ensures guaranteed varied representation across age demographics, genders, and levels of technological skills. As a non-probability method, it allows researchers to select participants randomly and without bias (Noor and Golzar, 2022). This approach enabled effective data acquisition from individuals with relevant experience, boosting the study's significance and reliability.

A power analysis was performed using G*Power 3.1.9.7 to ascertain the necessary sample size for linear multiple regression. The analysis demonstrated an impact size of 0.15, a significance level of $\alpha = 0.05$, and a statistical power of 0.95, revealing a requisite minimum sample of 74 respondents across five variables: perceived security, usefulness, ease of use, enjoyment, and behavioral intention to revisit. Ultimately, 122 answers were gathered, exceeding the minimum threshold. The increased sample size augmented statistical power and external validity, increasing the probability of identifying accurate correlations and providing the findings more commonly. Additionally, it facilitated subgroup analysis, enhancing the understanding of demographic or regional differences.

Data Collection and Instrumentation: The data collection instruments for this study were adapted from the “Customer Acceptance of Digitalization of Hotel Restaurants” study conducted by Labus and Jelovac (2022). The survey questionnaires were created and verified to assess essential constructs related to customer approval of digital restaurant menus. The online questionnaire was created using Google Forms and made available in English and Malay to ensure clarity and accessibility.

The questionnaire consisted of six sections: demographic information, perceived security, perceived usefulness, perceived ease of use, perceived enjoyment, and behavioral intention to revisit. Demographic data, including gender, age, marital status, education, employment position, income, and dining frequency, were assessed utilizing a nominal scale. The subsequent sections employed a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree) to evaluate the primary variables in this study.

Reliability Analysis: Table 1 shows Cronbach's alpha value for independent and dependent variables. Reliability analysis assesses the internal consistency of the variable answered by the respondents (Salkind, 2015) indicating that a Cronbach's alpha value above 0.8 is considered good internal consistency. From the table, the evidence supports that all the variables involved in the study have good internal consistency.

Table 1: Reliability Test

Survey Items	Number of Items	Cronbach's Alpha
Perceived Security	3	0.921
Perceived Usefulness	4	0.867
Perceived Ease of Use	4	0.941
Perceived Enjoyment	3	0.873
Behavioral Intention	4	0.940

4. Findings and Results

Demographic Profile: The demographic profiles of the respondents are presented in Table 2 (N: 122). A majority of the respondents are male, comprising 56.6%, while females account for 43.4%. The ages of respondents range from 18 to over 55 years, with the largest group falling between 18 and 25, representing 50% of the total. Regarding marital status, 59.8% identified as single, meanwhile 40.2% were married. The educational qualifications of the respondents indicated that a significant portion, 41.8%, hold a Diploma, while the remainder possess a master's degree, bachelor's degree, or SPM qualifications. Employment statistics revealed that 65.6% of respondents were involved in full-time employment, whereas 24.6% were pursuing their studies. Individuals working part-time accounted for 4.1%, while those unemployed made up 5.7%. The analysis of the respondents' monthly income levels revealed diverse distributions; 27.9% indicated no income, 26.2% reported earnings between RM 1,000 and RM 1,999, 20.5% earned between RM 2,000 and RM 2,999, 9% earned between RM 3,000 and RM 3,999, 4.1% earned between RM 4,000 and RM 4,999, and 12.3% earned more than RM 5,000.

Table 2: Demographic Profiles of the Respondents

Variable	Categories	Frequency (N)	Percent (%)
Gender	Male	69	56.6
	Female	53	43.4
Age	18-25 years old	61	50
	26-35 years old	40	32.8
	36-45 years old	14	11.5
	46-55 years old	5	4.1
	Above 55 years old	2	1.6
Marital Status	Married	49	40.2
	Single	73	59.8
Education	SPM	25	20.5
	Diploma	51	41.8
	Degree	35	28.7
	Master	11	9
	PHD	0	0
Employment status	Unemployed	7	5.7
	Full time	80	65.6
	Part time	5	4.1
	Student	30	24.6
Monthly Income	No income	34	27.9

RM 1,000 – RM1,999	32	26.2
RM 2,000 – RM 2,999	25	20.5
RM 3,000 – RM 3,999	11	9
RM 4,000 – RM 4,999	5	4.1
More than RM 5,000	15	12.3

Descriptive Statistics: This section portrays the descriptive statistics on the level of agreement between perceived security, perceived usefulness, perceived ease of use, and perceived enjoyment of using restaurant digital menus toward their intention to revisit.

***Perceived Security of Digital Menu*:** The first independent variable examined in this study is perceived security. The data presented in Table 3 indicates that the average scores for perceived security when utilizing digital menus varied between 3.53 and 3.56. This finding suggests that respondents maintained a neutral position, expressing neither strong agreement nor strong disagreement regarding the security of the digital menu.

Table 3: Mean Score and Standard Deviation for Perceived Security

No.	Survey Items	Mean	Std. Deviation	Percentage (%)	
1	The digital menu in the restaurant keeps my data secure	3.56	1.18		
				Strongly Disagree	4.9%
				Disagree	8.2%
				Neutral	33.6%
				Agree	29.5%
				Strongly agree	23.8%
2	I am confident with the data privacy while using the digital menu in the restaurant	3.56	1.05		
				Strongly Disagree	3.3%
				Disagree	10.7%
				Neutral	35.2%
				Agree	28.7%
				Strongly agree	22.1%
3	I am confident in the reliability and security of the technology behind the digital menu	3.53	1.06		
				Strongly Disagree	4.1%
				Disagree	9.8%
				Neutral	36.1%
				Agree	28.7%
				Strongly agree	21.3%

***Perceived Usefulness of Digital Menu*:** Table 4 shows that item 2 achieved the highest mean score of 3.89, suggesting that respondents strongly believe the digital menu has significantly enhanced their comprehension of the menu. Item 3, with a mean score of 3.80, ranked second, indicating consensus among respondents that applying a digital menu in restaurants enhances their motivation to make a purchase. Furthermore, Items 4 and 1 received mean scores of 3.74 and 3.68, respectively, suggesting that participants generally perceived the digital menu as somewhat effective in enhancing the ordering process and supporting the acquisition of new information. These scores reflect a moderately positive response rather than a neutral stance, indicating that the digital menu contributes to these aspects but with room for further improvement.

Table 4: Mean Score and Standard Deviation for Perceived Usefulness

No.	Survey Items	Mean	Std. Deviation	Percentage (%)	
1	The digital menu has helped me learn new things	3.68	1.05	Strongly Disagree	4.1%
				Disagree	6.6%
				Neutral	32.0%
				Agree	32.0%

				Strongly agree	25.4%
2	The digital menu has helped me understand the menu better about the menu	3.89	1.00	Strongly Disagree	2.5%
				Disagree	5.7%
				Neutral	23.8%
				Agree	36.1%
				Strongly agree	32.0%
3	Using a digital menu to order at the restaurant increases my motivation to buy	3.80	1.07	Strongly Disagree	4.9%
				Disagree	2.5%
				Neutral	32.0%
				Agree	28.7%
				Strongly agree	32.0%
4	Using a digital menu can enhance the effectiveness of my ordering	3.74	1.10	Strongly Disagree	4.9%
				Disagree	6.6%
				Neutral	27.0%
				Agree	32.8%
				Strongly agree	28.7%

***Perceived Ease of Use of Digital Menu*:** Table 5 indicates that item 3 attained the highest mean score of 3.93, demonstrating that respondents strongly agree that the digital menu process in mobile applications is easy to understand. Item 4 achieved a mean score of 3.89, indicating a high level of perceived convenience among the respondents regarding the convenience of digital menus in restaurants within the Klang Valley. Items 1 and 2 achieved a mean score of 3.88, suggesting that respondents expressed comparable agreement with the digital menu's straightforward design and its effectiveness in conveying information.

Table 5: Mean Score and Standard Deviation for Perceived Ease of Use

No.	Survey Items	Mean	Std. Deviation	Percentage (%)	
1	Using a digital menu was straightforward	3.88	0.99	Strongly Disagree	2.5%
				Disagree	4.1%
				Neutral	28.7%
				Agree	32.8%
				Strongly agree	32.0%
2	Using a digital menu helps me get information easily	3.88	1.07	Strongly Disagree	4.9%
				Disagree	4.1%
				Neutral	22.1%
				Agree	36.1%
				Strongly agree	32.8%
3	The digital menu process in mobile apps is clear and understandable	3.93	1.01	Strongly Disagree	1.6%
				Disagree	8.2%
				Neutral	20.5%
				Agree	35.2%
				Strongly agree	34.4%
4	I find it convenient to use a digital menu	3.89	0.99	Strongly Disagree	1.6%
				Disagree	4.9%
				Neutral	30.3%
				Agree	29.5%
				Strongly agree	33.6%

***Perceived Enjoyment of Digital Menu*:** Table 6 shows that item 1 attained the highest mean score of 3.91, indicating respondents' consensus on the enjoyment of using the digital menu. Item 2 received a mean score of 3.86, indicating that respondents perceived the digital menu as enhancing their excitement. Item 3 yielded a mean score of 3.69, indicating that participants generally found the digital menu moderately engaging. This score reflects a slightly positive perception rather than a neutral stance, suggesting that while the menu captures some interest, there is potential to enhance its appeal further.

Table 6: Mean Score and Standard Deviation for Perceived Enjoyment

No.	Survey Items	Mean	Std. Deviation	Percentage (%)	
1	I had fun using the digital menu	3.91	1.02	Strongly Disagree	2.5%
				Disagree	4.9%
				Neutral	27.0%
				Agree	30.3%
				Strongly agree	35.2%
2	A digital menu would enhance my excitement	3.86	1.02	Strongly Disagree	1.6%
				Disagree	8.2%
				Neutral	25.4%
				Agree	32.0%
				Strongly agree	32.8%
3	For me, the use of digital menus is very interesting	3.69	1.01	Strongly Disagree	1.6%
				Disagree	4.9%
				Neutral	28.7%
				Agree	30.3%
				Strongly agree	34.4%

Intention to Revisit: Table 7 indicates that item 4 achieved the highest mean score of 3.87, reflecting respondents' agreement and their propensity to endorse digital menu services at these restaurants. Item 1 received a mean score of 3.84, regarding the intention to revisit restaurants that utilize digital menus. Item 2 received a score of 3.78, indicating that respondents agreed that implementing digital menus affected their restaurant selection and that they would endorse it. Item 3 recorded the lowest mean score of 3.66, reflecting a neutral response regarding recommending restaurants with digital menus when asked for advice.

Table 7: Mean Score and Standard Deviation for Intention to Revisit

No.	Survey Items	Mean	Std. Deviation	Percentage (%)	
1	Thanks to the digital service. I intend to return to the restaurant that uses a digital menu	3.84	1.00	Strongly Disagree	2.5%
				Disagree	4.9%
				Neutral	30.3%
				Agree	31.1%
				Strongly agree	31.1%
2	I think the use of the digital menu service in the restaurant made me choose that restaurant, and I would recommend others to use it	3.78	1.03	Strongly Disagree	2.5%
				Disagree	6.6%
				Neutral	32.0%
				Agree	28.7%
				Strongly agree	30.3%
3	If someone asks me for advice, I will recommend restaurants that use a digital menu	3.66	0.99	Strongly Disagree	2.5%
				Disagree	6.6%
				Neutral	37.7%
				Agree	29.5%
				Strongly agree	23.8%
4	I will speak positively to others about the digital menu service offered at those restaurants	3.87	0.94	Strongly Disagree	1.6%
				Disagree	4.1%
				Neutral	29.5%
				Agree	35.2%
				Strongly agree	29.5%

Multiple Regression: The purpose of multiple regression analysis is to describe the relationships between the variables. In this study, the researchers aim to determine how perceived security, perceived usefulness, perceived ease of use and perceived enjoyment of a restaurant's digital menu influence customers' intention to revisit.

Table 8 presents the model summary, which consists of an R square (R^2). This value indicates that 82% of the variation in the intention to revisit is influenced by perceived security, perceived usefulness, perceived ease of use, and perceived enjoyment of using the digital menus. The remaining 18% is influenced by other factors not addressed in this study.

Table 8: Model Summary

Model	R	R. Square	Adjusted R-Squared	Std. Error of the Estimate	R. Square Change
1	.903	.815	.771	1.38147	.815

Predictors: (Constant), Total_PS, Total_PU, Total_PEOU, Total_PE
Dependent variable: Total_RI

Table 9 presents the coefficients of the independent variables about the dependent variable. The coefficient values indicate that perceived enjoyment is the only significant variable, as the significance value is 0.020, which is below the threshold of 0.05. Additionally, the variables of perceived security, perceived usefulness, and perceived ease of use are not significant, as their significance values are 0.278, 0.866, and 0.579, respectively, all exceeding the threshold of 0.05. The standardized coefficients indicate that perceived enjoyment exerts the greatest influence on the intention to revisit, followed by perceived ease of use, perceived security, and perceived usefulness.

Table 9: Coefficients of the Variables

Model	**Unstandardized Coefficients**		**Standardized Coefficients Beta**	**t**	**Sig.**
	B	**Std. Error**			
Perceived Security	.189	.133	.130	1.122	.278
Perceived Usefulness	.150	.118	.027	.171	.866
Perceived Ease of Use	.020	.245	.139	.565	.579
Perceived Enjoyment	.970	.378	.742	2.570	.020

a. Dependent Variable: Revisit Intention
*Note: Adjusted R^2= 0.815 *p < 0.05*

Correlation Analysis: Table 10 illustrates the linear relationship among the variables. Hair (2010) states that ~~a~~ correlation coefficient value exceeding 0.90 signifies a very high positive or negative correlation, whereas a value ranging from 0.70 to 0.90 indicates a high positive or negative correlation. Table 10 indicates a strong positive correlation among perceived enjoyment, perceived ease of use, perceived usefulness, and behavioral intention to revisit. Perceived security exhibits a moderate positive correlation to revisit.

Table 10: Correlations of the Variables

Pearson correlation	**Total PS**	**Total PU**	**Total PEU**	**Total PE**	**Total RI**
Perceived Security	1	.749	.825	.670	.682
Perceived Usefulness	.749	1	.794	.923	.835
Perceived Ease of Use	.625	.794	1	.921	.862
Perceived Enjoyment	.670	.823	.921	1	.880
Revisit Intention	.682	.835	.862	.880	1

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

Discussion

This study empirically examines how customer acceptance, which includes perceived security, perceived usefulness, perceived ease of use, and perceived enjoyment of digital menus affects their intention to revisit the restaurant. The findings indicate that perceived security, usefulness, and ease of use do not significantly influence customers' intention to revisit. In contrast, the perceived enjoyment of using digital menus is the only substantial factor affecting customer intention to revisit. Perceived enjoyment of using digital menus is the sole significant variable affecting the intention to revisit. The findings of this study contradict those of earlier research conducted by Cho et al. (2019), Seo and Lee (2021), Labus and Jelovac (2022), and Khan and Abideen (2023). It is possible that the results were significantly influenced by the age distribution of the respondents, as 50% of them were within the 18-25 age range. This demographic is typically more technology-savvy, having grown up in an environment where technology is pervasive.

Although the significance of Perceived Enjoyment's significance and the high variance explained by the model suggest it is the dominant driver of revisit intention, the strong correlations among PU, PEU, and PE point to indirect effects and potential multicollinearity. These findings emphasize the importance of prioritizing user experience elements beyond basic functionality in digital menu design to enhance customer satisfaction and foster loyalty. Consequently, hypotheses H1, H2, and H3 are rejected, whereas H4 is accepted (refer to Table 11) as discussed below.

H1: *Perceived security of the digital menu has a significant positive effect on customer revisit intention*
The study results indicated that perceived security did not exert a statistically significant effect on customers' intention to revisit ($p > 0.05$). This outcome suggests that issues concerning the security of digital menus, including data privacy and information protection, are not significant factors influencing customers' decisions to return to the restaurant. Although security is a crucial aspect of digital interactions (Labus and Jelovac, 2022), such as digital menus, it may not significantly impact intentions to revisit. This finding contradicts the study by Seo and Lee (2021), which stated that perceived security creates uncomfortable feelings that influence customers' intentions to revisit the restaurant. The minimal significance of perceived security in this study may stem from high trust levels, low awareness of security issues, or the prioritization of other factors like usability and enjoyment. This finding indicates that customers either commonly trust digital systems or prioritize other elements of their dining experience when deciding to return.

H2: *Perceived usefulness of the digital menu has a significant positive effect on customer revisit intention*
The analysis revealed that perceived usefulness did not exert a statistically significant effect on the intention to revisit ($p > 0.05$). This indicates that customers' perceptions of the usefulness of digital menus, which include their capacity to offer detailed information or facilitate the ordering process, were not a major factor in their decision to revisit the restaurant. Digital menus serve to enhance the dining experience through convenience and efficiency, as noted by Khan and Abideen (2023) & Cho et al. (2019). However, this study finds that their perceived usefulness may not significantly affect intentions to revisit. It is possible that when the perceived usefulness reaches a threshold of ubiquity and fulfills baseline expectations, they no longer function as significant differentiators. In such instances, elements such as user enjoyment or experience may assume more importance, dramatically influencing user behavior and engagement as well as impacting customers' decision to revisit.

H3: *Perceived ease of use of using the digital menu has a significant positive effect on customer revisit intention*
Perceived ease of use did not exhibit a statistically significant effect on intention to revisit ($p > 0.05$). This finding indicates that customers' perceptions of how easy it is to navigate and use the digital menu did not significantly affect their decision to return to the restaurant. Although ease of use is typically essential for improving user experience and satisfaction with digital interfaces, as noted by Bawazir et al. (2023), Mapaly et al. (2023), and Şahin (2020), it was not recognized as a significant factor affecting revisit intentions in this study. This suggests that, while ease of use is valued and expected, as studied by Mois and Beer (2020) and Yim and Yoo (2020), it does not serve as a distinguishing criterion relative to other aspects of the dining experience that customers prioritize. Notably, older users may face challenges in accessing digital menus, yet this did not appear to influence their revisit decisions strongly. These findings highlight the importance of designing digital menus that are accessible and intuitive for diverse demographics, including older adults, even if ease of use does not directly and significantly drive revisit intentions.

H4: *Perceived enjoyment of using the digital menu has a significant positive effect on customer revisit intention*
Perceived enjoyment demonstrated a statistically significant positive impact on customer revisit intention ($p = 0.020$). This finding indicates that customers who perceive the experience of engaging with the digital menu as enjoyable are more likely to revisit the establishment, supporting the research conducted by Foroughi et al. (2024). Enjoyment is vital in driving user engagement and satisfaction, (Kim et al., 2023; Paramita and Hidayat,

2023; Mohamed et al., 2022) as it enhances the overall dining experience. Improving perceived enjoyment in digital menus necessitates an integration of functional and aesthetic components. By emphasizing user-friendly interfaces, personalization, aesthetic appeal, and interaction features, digital menus may foster a pleasurable experience that promotes returning customers and enhances consumer satisfaction. Addressing these practical design features can elevate the menu from a mere ordering tool to a source of enjoyment that enriches the overall dining experience.

Table 11: Hypotheses and Decision

Hypothesis	Decision
H1: Perceived security of the digital menu has a significant positive effect on behavioral intention to revisit.	Rejected
H2: Perceived usefulness of the digital menu has a significant positive effect on behavioral intention to revisit	Rejected
H3: Perceived ease of use of using the digital menu has a significant positive effect on behavioral intention to revisit.	Rejected
H4: Perceived enjoyment of using the digital menu has a significant positive effect on the behavioral intention to revisit.	Accepted

5. Conclusion and Recommendations

This study investigated the factors that affect customer acceptance of digital menus in restaurants in Klang Valley and how these factors later affect the intention to revisit. The analysis of the respondent demographic uncovered a varied sample, indicative of a population well-versed in technology and digital solutions. The results revealed that perceived enjoyment plays a crucial role in affecting intentions to revisit, as respondents indicated that digital menus contributed positively to their overall dining experience and heightened their excitement. Conversely, although perceived security, usefulness, and ease of use positively influenced customer perceptions, they did not independently demonstrate a statistically significant effect on revisit intentions.

The findings highlight the necessity of creating digital menus that prioritize security and user-friendliness while being engaging and enjoyable to enhance customer satisfaction and loyalty. Establishments in highly populated regions such as Klang Valley can utilize these findings to customize digital menus that address a variety of consumer preferences and behaviors. Moreover, future research may investigate methods to improve the digital dining experience, particularly for individuals facing usability difficulties. It could also explore the extent of security awareness among users and how it interacts with other factors influencing digital technology adoption. While the significance of perceived enjoyment and the high variance explained by the model highlights its role as the primary driver of revisit intention, the strong correlations among perceived usefulness, perceived ease of use, and perceived enjoyment suggest indirect effects and potential multicollinearity. Therefore, conducting mediation analysis and addressing multicollinearity will provide deeper insights into the direct and indirect contributions of perceived usefulness and perceived ease of use to revisit intention through perceived enjoyment and subsequently strengthen and solidify the findings.

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Utilizing Local Food Heritage as a Destination Marketing Strategy for Tourism to Promote Multiethnic Malaysia

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Abstract: In the past 25 years, many tourism researchers have studied how local food, tourists, and travel locations are interrelated. While many studies have examined the impact of local food and dining experiences on tourists' travel decisions and length of stay, less attention has been given to how local food heritage is strategically incorporated into tourism destination marketing. Understanding this aspect is crucial, as it highlights the distinctive appeal of a destination and its contribution to community development. This article examines how the Malaysian government incorporates local food heritage into its country's marketing strategies. In this study, relevant archival documents, including tourism-related policies and marketing collaterals, were collected and analysed using thematic analysis. The results show that tourism and food-related policies play critical roles in the effort to strategize on 'what and how' to promote local food heritage as a key part of Malaysia's unique experience. The marketing collaterals, on the other hand, act as a 'middle person' which informs potential tourists about the local food heritage experiences, including the food's historical background and dining places either in descriptive (textual) or image (visual through specific food photographs). Although the results reveal both the specific and interrelated functions of tourism-related policies and marketing strategies, a few archival documents were excluded due to confidentiality issues and limited access. Therefore, future research might empirically delve deeper into the various tourism stakeholders' collaboration on the complexities of incorporating local food heritage into destination marketing strategies to provide comprehensive theoretical and practical knowledge.

Keywords: *Culinary heritage; Government; Tourism marketing; Local food; Destination*

1. Introduction

Promoting the local culinary and its heritage values are becoming more widely recognised as an essential tourism experience for many destinations and as a way to improve their identity (Hsu & Scott, 2020; Jalis et al., 2024). As tourists increasingly seek authentic and distinctive culinary experiences, local food heritage has become a central aspect of the tourism experience, reflecting the culture and identity of a destination (Dixit & Prayag, 2022; Recuero-Virto & Arróspide, 2024; Stalmirska, 2021). It serves as a defining element of a destination's cultural identity and plays a crucial role in attracting and engaging tourists. Additionally, gastronomic tourism has gained significant attention in discussions on food heritage, highlighting its relevance to tourism development (Jalis et al., 2024; Lee, 2022).

Food heritage extends beyond the cuisine and beverages associated with a particular region or community, encompassing the broader socio-cultural significance of local culinary traditions. Recognising its potential to enhance tourism, many destinations have incorporated food heritage into their marketing strategies, leveraging locally produced goods and culinary traditions to strengthen their appeal.

Kiráľová and Malec (2021) stated that a growing interest and demand for local food from tourist destinations is looming. Tourism thrives when tourists can immerse themselves in a destination's history through its local food. As a result, destination marketing strategies should take into account the importance of utilising the "story of food" by relating local cuisine to cultural and historical settings. Su and Horng (2012) suggested that removing barriers to consuming local cuisine is crucial in the development of numerous destination marketing initiatives. Furthermore, they argued that providing consistent and authentic images of local foods and culinary experiences is critical for marketing success.

Numerous studies have explored the extent to which local cuisine influences tourists' decisions to visit particular destinations. At first glance, the theories and concepts developed in these studies may appear universally applicable to all tourists. However, a considerable proportion of this research is grounded in the perspectives and study contexts of Western scholars. Some studies (e.g., Hashimoto & Telfer, 2006; Lin et al., 2011; Okumus et al., 2013; Okumus et al., 2018; Recuero-Virto & Arróspide, 2024; Ryu & Jang, 2006) fail to distinguish between 'food heritage' and 'culinary heritage' within the framework of gastronomy terminology. This lack of distinction can be particularly problematic in studies focusing on specific tourism destinations.

Capitalising on the growing tourist demand for culinary experiences, along with its potential to enhance tourism and strengthen national identity, the Malaysian government has actively promoted local cuisine as a hallmark of the country's tourism industry. During the 1990 'Visit Malaysia Year' (VMY), local cuisine was prominently featured as a key attraction to position Malaysia as a leading international destination (Jalis, 2016). The diverse range of foods and culinary traditions reflects the ethnic and cultural richness of Malaysian society, shaped by historical interactions between local communities and early settlers. This cultural fusion has played a pivotal role in the evolution of Malaysia's local food heritage. Consequently, Malaysia's heterogeneous identity provides a strong foundation for defining and characterising its culinary heritage.

Given that ethnicity and cultural variety have significantly influenced the evolution of Malaysian cuisine, the political dynamics rooted in ethnicity and religion must be acknowledged to comprehend the food's impact on destination marketing and identity. In recent years, as the tourism industry continues to thrive and significantly bolster the domestic economy, the Malaysian government has developed marketing strategies that highlight the distinctive culinary experiences throughout Malaysia (Dixit & Prayag, 2022; Jalis et al. 2014; Jalis et al., 2024). Local food heritage is intricately intertwined with the nation's various ethnic and cultural heritage, showcasing distinctive tastes, preparation techniques, and culinary traditions that have been transmitted through centuries.

Despite tourists' positive reception of Malaysian cuisine, subsequent studies (Jalis et al., 2024; Henderson, 2016; Olmedo, 2015; Shariff et al., 2024; Yoshino, 2010) have questioned its effectiveness in representing the nation's identity and cultural narrative. As a result, the effectiveness of the Malaysian government's efforts to integrate local cuisine into destination marketing remains a subject of debate. Therefore, using relevant tourism-related policies and local food heritage marketing collateral, this article investigates how the Malaysian government, together with its tourism collaborators, utilise the country's local food heritage in its marketing strategies.

2. Literature Review

The Influence of Local Food Heritage in Tourism: As previously discussed, the role of local food and its culinary specialities in the expansion of the tourism sector has been increasingly examined to better understand the interplay between local cuisine, tourists, and travel destinations. Recognising food tourism as a specialised segment within the broader tourism industry, the 2012 UNWTO Global Report on Food Tourism highlights the various benefits associated with this expanding market (UNWTO, 2012). Furthermore, the report found that 88.2% of its affiliated members—comprising public and commercial organisations collaborating with the UNWTO—acknowledged local food and culinary specialities as effective marketing tools for tourist destinations.

In recent years, destination culinary specialities, including local food and its heritage values, have gained significant scholarly attention within the realm of food tourism, reflecting their growing importance in tourism research. In tourism studies, the local cuisine of specific tourist destinations received limited attention before the 2000s, largely due to the interdisciplinary nature of food research (Hall & Gössling, 2016). Food-related studies span multiple disciplines, including sociology, anthropology, economics, consumer behaviour, marketing, and hospitality. Within the broader concept of culinary tourism, local food heritage has emerged as a distinct niche market. Novelli (2005) noted that an increasing number of tourism destinations have adopted it as a strategic tool for marketing and branding to establish and reinforce their identity.

Local food heritage encompasses a range of sociocultural elements that have influenced its development and distinctiveness. This evolution has given rise to a diverse selection of agricultural and food products, traditional dishes, local ingredients, preparation techniques, culinary tools, and consumption practices, all of which are accessible within the tourist market (Bessière & Tibère, 2013). Serving as a powerful symbol of regional identity, local food and its heritage values reflect the deep cultural roots and unique traditions of a particular destination.

Thus, selecting effective marketing strategies through appropriate advertising and promotional channels—both non-digital (e.g., brochures, posters, travel guides) and digital (e.g., television, radio, websites, blogs, Facebook, and X which formerly known as Twitter)—is essential for communicating both implicit and explicit aspects of local food heritage. Additional engagement between policymakers and marketers, often comprising industrial entities and/or non-governmental organisations, about the requisite tourism product, such as local food and its heritage information, is essential before implementing strategic marketing strategies and tourism policies.

Focusing on Malaysia and its local food heritage, this study aims to develop a comprehensive and nuanced understanding of how the Malaysian government collaborates with relevant stakeholders to construct a local identity for tourism marketing and branding. This is examined through the integration of local food heritage into national tourism policies and marketing strategies, drawing on Hall et al.'s (2003) concept of 'regionality,' White and Frew's (2011) framework of tourist destination identity, and Jenkins et al.'s (2011) definition of 'tourist destination'.

Positioning Malaysia as a Tourism Destination Through Its Local Food Heritage: While local food heritage has demonstrated its appeal to tourists and its potential to enhance a destination's image, it is crucial to comprehend the complex nature of local culinary concepts and their impact on tourism growth. Moreover, integrating knowledge of local food heritage into tourism is deemed beneficial due to its connection to local identity (Richards, 2015). Local food heritage possesses significant potential to attract diverse tourist market segments, especially those seeking to taste local food and appreciate its heritage values.

In a multiethnic country like Malaysia, integrating local food heritage into the tourism industry aims not merely to capture the eyes of potential tourists but also to cultivate a deeper awareness of Malaysia's rich culinary specialities (Kim & Lee, 2022). Recognising the substantial potential of local food heritage to enhance tourism and drive economic growth, the Malaysian government has implemented a comprehensive strategy to promote and integrate local cuisine into the nation's destination branding initiatives (Jalis, 2024).

The promotion of multiethnicity in Malaysia, however, has influenced the local food heritage. The Malaysian government faces the problem of portraying diversity in a positive light while still positioning Malaysian cuisine in the minds of tourists. Figure 1 includes images and promotional posters from a variety of Malaysian government marketing materials and websites.

In 2006, the Malaysian government incorporated culinary specialities, including local food heritage, into the national agenda, as outlined in the Ninth Malaysian Plan (2006–2010). This initiative aimed to foster the growth of small and medium-sized enterprises (SMEs), particularly within the food industry. Simultaneously, there was a growing recognition of the significance of Malaysian cuisine in enhancing the country's global branding. This movement resulted in the launch of two significant Malaysian cuisine marketing initiatives (the Malaysia Kitchen Programme (MKP) and CitraRasa). In 2007, MTPB created a strategic marketing plan (i.e., the Promotional Plan 2007/2008) to promote local food heritage as part of the tourism experience in Malaysian destinations. This initiative was the first time Malaysian culinary, including local food heritage specialities, were discovered and incorporated into a national and worldwide tourism marketing strategy.

Figure 1: Tourism Malaysia poster and campaign for Malaysia Truly Asia

Source: Retrieve on November 20th, 2024, from Tourism website https://www.tourism.gov.my/campaigns/view/malaysia-truly-asia

Signature dishes such as *Nasi Lemak* (a traditional Malaysian dish, consists of rice cooked in coconut milk and served with fried dried anchovies, peanuts, and spicy chilli paste.– see Figure 3)*, Roti Canai* (fried round flat bread)*, Laksa* (noodle shape made from rice flour served with spicy gravy and accompaniments – see Figure 2)*, Rendang* (beef or chicken cooked with coconut milk, lemongrass, ginger, and scented with turmeric leaf)*, Char Kuey Teow* (fried rice flat noodles with eggs, soy sauce, beansprout and prawn), and *Satay* (skewed beef or chicken grilled served with peanut sauce and rice cake) are often employed in Malaysian government and tourism stakeholders marketing collaterals to promote the country. A signature dish refers to a specific recipe or culinary creation that symbolises a particular location or individual. This is referred to as a branding strategy for constructing pictures of tourist destinations in tourism marketing. The concept of a signature dish remains ambiguous, yet scholars continue to debate its connection to national dishes, food heritage (Timothy, 2016), and iconic cuisines (Everett, 2015). Regardless of whether a dish is classified as national, heritage, or iconic, it serves as a representation of the culture and lifestyle of a specific community or ethnic group. Utilising a signature dish as a symbol of a tourism destination can function as an effective branding strategy to attract target tourist markets. A signature dish not only cultivates a desire among targeted audiences to sample certain local food but also shapes and enhances the impressions and imagery of a particular tourism destination in the minds of tourists.

Figure 2: Penang Laksa

Source: Retrieved on 18th January 2025, from Tourism Malaysia's official website at https://ebrochures.malaysia.travel/calendar-of-events/

Figure 3: Malaysian Nasi Lemak and Teh Tarik demonstration at Malaysia Travel Escapade 2024 in Singapore, Suntec City Mall (Convention Centre) from 12th to 14th April 2024

Source: Retrieved on 12th January 2025 from Tourism Malaysia's official website at https://www.tourism.gov.my/media/view/tourism-malaysia-showcases-malaysian-breakfast-culture-in-singapore

Scholars, particularly Malaysian academics, have increasingly explored the role of local food and culinary specialities in marketing Malaysia as a tourist destination, driven by the Malaysian government's ongoing initiatives. Much of the existing research has focused on tourists' perceptions and understanding of Malaysian cuisine, examining how food imagery and experiences influence their travel decisions and overall destination experiences. Jalis et al. (2009), using a survey questionnaire, found that most Western tourists perceived Malaysian gastronomic offerings as an enhancement to their travel experiences. Similarly, Roozbeh et al. (2013) suggested that first-time and repeat tourists may exhibit different perspectives. Their study on the impact of food experiences on overall satisfaction revealed that Malaysian cuisine plays a crucial role in shaping tourists' overall travel experiences.

Although the aforementioned research shows how popular Malaysian food and culinary specialities are with tourists, little is known about their significance from the supply side, especially about the role of tourism authorities, including relevant tourism policies and marketing strategies. Other studies have examined Malaysian food, focusing primarily on particular dishes or culture, the restaurant and food industry, religious customs, and branding. The incorporation of local food heritage into Malaysian destination marketing has not been extensively studied.

3. Methodology

This study involved the collection and analysis of archival documents from two main categories: (i) marketing collateral, including promotional brochures, travel guides, and posters available on official websites, such as e-brochures, and (ii) tourism-related policies and strategic destination marketing plans from relevant government agencies. These materials were analysed to develop a comprehensive understanding of the strategic planning approach employed to promote Malaysia as a tourist destination. Specifically, the analysis examined relevant tourism policies that have shaped the integration of local food heritage into destination marketing strategies, as well as the representation of individual dishes or meals in marketing communication platforms. This study exclusively utilised archival records produced by the Malaysian government and its agencies that were publicly accessible without restrictions from 2020 to January 2025.

To ensure the reliability and validity of the data, four tests were conducted to minimise potential bias in the findings. Table 1 summarises the four tests.

Table 1: The four tests of trustworthiness and rigour of data

Tests	Execution procedures for this study
Construct validity assesses the appropriateness of the operational measures used to examine the concept under investigation.	Multiple sources of evidence were utilised to enhance the robustness of the study.
Internal validity establishes causal relationships while distinguishing them from spurious correlations.	Thematic analysis was conducted following the seven-stage framework to systematically analyse all data collected, particularly archival documents.
External validity determines the extent to which the findings can be generalised across different contexts.	Used the literal or logical replication to the archival documents.
Reliability ensures consistency in the research process by maintaining a standardised methodological approach.	Developed a research design (i.e., the step-by-step) as guidance in data collection.

The data collected from the interviews were analysed using thematic analysis. For archival documents, the thematic analysis involved extracting relevant data from individual transcripts and systematically organising each identified code into separate file cards. The final stage of this analysis entailed reporting the findings after completing the entire coding process, which included identifying and categorising themes from the raw data. The analytical process followed seven stages, drawing upon established frameworks outlined by various scholars on thematic analysis in phenomenological research (Braun & Clarke, 2006).

4. Findings and Results

The analysis of archival documents revealed that local food heritage and specialities are integral components of Malaysia's cultural identity, contributing to the added value of its tourism industry. One of the key tourism strategies outlined in the Sixth Malaysia Plan (1991–1995) emphasised the development of a distinctive Malaysian image and identity within the tourism sector (Economic Planning Unit, 2022a). In this plan, special types of tourism that matched Malaysian values and lifestyles were set up. This plan focuses on protecting and improving the national heritage while celebrating the culture and lifestyles of different groups. Malaysia's diverse culture is seen as a valuable benefit for tourists. The local culture was highlighted for its interesting and unique qualities. A strong cultural foundation filled with stories, music and dance, customs, crafts, buildings, and unique foods was established in this plan.

The Malaysian government has allocated substantial funds to the development of information technology (IT) infrastructure from the Seventh Malaysia Plan (1996–2000) to the present (Economic Planning Unit, 2022b). This decision was made based on the significant potential for economic development that IT can provide. Advancements in information and communications technology (ICT) have reshaped tourism marketing, making it more dynamic. In response, Destination Marketing Organisations (DMOs), such as Tourism Malaysia and other relevant agencies, have enhanced their official websites to provide greater interactivity. These improvements enable the continuous dissemination and updating of information on Malaysian cuisine as part of the tourism experience. Key features include details on culinary tour packages, e-brochures showcasing local cuisine, and updates on food-related events and festivals, accessible anytime and from any location. This shift represents a new phase in the country's destination marketing strategies.

Furthermore, the Department of Heritage Malaysia has undertaken proactive initiatives to preserve and safeguard the nation's cultural and heritage assets. These measures have facilitated the preservation of the narrative of culinary traditions that have been passed down through generations. In May 2009, the Department published the National Food Heritage List (NFHL), a compilation of heritage foods (Elis, 11th May 2009), and 100 commodities were initially identified and listed under the NFHL. In August 2014, in conjunction with Malaysia's 57th Independence Day celebrations, Dato' Seri Mohamed Nazri Abdul Aziz, who served as the tourism minister at the time, announced the recognition of 151 cuisines as part of the nation's food heritage (FTM Reporters, 11th August 2014). He further explained that these culinary traditions were classified under the "intangible cultural heritage" provision of the National Heritage Act 2005. According to the Act, intangible heritage includes various forms of cultural expression, such as language, oral traditions, folklore, poetry, songs, dance, theatre, performing arts, and martial arts, all of which are linked to Malaysia's historical and cultural identity.

Thematic analysis of marketing materials from selected Malaysian government agencies indicated that adjectives such as spicy, aromatic, and hot were commonly used, highlighting the prominence of chillies and spices in Malaysia's local food heritage. Additionally, descriptive terms emphasising the uniqueness of local culinary traditions were employed to convey the types of gastronomic experiences that tourists might anticipate when sampling Malaysian cuisine. The concept of recognition pertains to the strong connection between local food heritage and geographical identity (Boyne & Hall, 2004). As previously said, local food heritage may be utilised to promote a destination's identity and attract tourists. One marketing strategy used by the Malaysian government to attract tourists is to emphasise local culinary speciality from a specific area or region. As a result, terms such as 'popular', 'favourites', and 'speciality' were commonly employed.

The aforementioned results were further substantiated by food sensory experiences and the nation and territory, which were respectively represented in specific dishes/meals in images that were repeatedly identified through the thematic analysis of photographs used in the collected marketing collaterals. This finding is consistent with Boyne et al.'s (2003) theory, which asserts that the development of a region's character and cultural identity plays a fundamental role in location-based tourism. This move is achieved by incorporating the portrayal of local food heritage into the marketing collateral. An alternative method of illustrating the concept of local food heritage that reflects a multiethnic identity is the use of images of communal meals that foster togetherness. These images feature a diverse group of individuals from various ethnic backgrounds, all of whom are smiling and eating together while using a diverse set of cutleries. Malaysia's global image as a multiethnic nation has influenced the representation of its local food heritage, positioning culinary traditions as a key aspect of cultural identity in tourism promotion. However, the government and tourism agencies face challenges in presenting an inclusive and representative portrayal that authentically reflects the country's diverse ethnic influences. While efforts have been made to incorporate various cultural traditions, the selection and promotion of specific dishes may unintentionally prioritise certain cuisines over others, potentially marginalising lesser-known yet culturally significant food traditions. This raises important questions about how Malaysia's food heritage narrative aligns with broader goals of cultural sustainability, inclusivity, and heritage preservation in tourism marketing.

Discussion

Overall, the findings indicate that the term' tourism industry was officially incorporated into Malaysian government policy in 1966, recognising its potential as a driver of national economic growth. Since then, the sector has undergone steady expansion, supported by successive policy initiatives. In 2010, tourism was identified as one of the twelve National Key Economic Areas (NKEAs), securing federal funding allocations until 2020 as part of broader economic transformation efforts.

Integrating local culinary history into Malaysia's destination marketing strategy requires coordination among multiple federal agencies under the Ministry of Tourism, Arts, and Culture (MOTAC). Key institutions, such as the Department of Heritage Malaysia and Tourism Malaysia, have played central roles in positioning local food heritage as a core element of tourism promotion. Additionally, national development plans—particularly the Rancangan Malaysia Lima Tahun (RMKs), presented by the Prime Minister every five years—have significantly influenced the incorporation of Malaysia's culinary heritage into official tourism policies.

However, managing destination marketing in Malaysia remains complex, involving multiple stakeholders with differing priorities and interests. A key challenge lies in balancing economic imperatives with cultural preservation, as different actors may advocate distinct approaches to promoting Malaysia's food heritage. This underscores the need for a coherent and inclusive policy framework that accommodates perspectives from governmental bodies, industry players, and cultural heritage advocates to ensure that local food traditions are both effectively marketed and safeguarded for future generations.

A thematic analysis of photographs and textual content suggests that Malaysian tourism authorities carefully select imagery and language to communicate the significance of the country's local food heritage. Establishing a clear and distinctive culinary identity is essential, particularly given competition from neighbouring nations such as Singapore and Indonesia, which share similar gastronomic traditions.

The findings further suggest that leveraging local food heritage as a marketing tool serves a dual function: reinforcing Malaysia's multiethnic identity while fostering cultural power-sharing among the three predominant ethnic groups—Malays, Chinese, and Indians. By incorporating diverse culinary traditions into destination marketing strategies, the representation of Malaysia's food heritage symbolically reflects broader socio-cultural dynamics. However, the extent to which this inclusivity is equitably distributed remains a critical consideration. Dominant narratives in tourism promotion may privilege certain cuisines over others, subtly shaping perceptions of cultural hierarchy within the national identity framework. More than a culinary tradition, local food heritage embodies a sense of unity among Malaysia's diverse ethnic and religious communities. This aligns with Hashimoto and Telfer's (2006) research, which explores how Canada's culinary traditions have been integrated into destination marketing strategies.

Tourism and food-related policies play a pivotal role in shaping national agendas, providing strategic frameworks for positioning local food heritage as a distinctive aspect of Malaysia's tourism experience. Marketing materials serve as key intermediaries, offering prospective tourists' insights into local food heritage experiences, including their historical significance and associated dining establishments.

5. Conclusion and Recommendations

In conclusion, the findings underscore the importance of collaboration between tourism and food industry stakeholders in effectively marketing and branding Malaysia through its local food heritage. Such coordinated efforts can enhance the destination's appeal, attracting both first-time and returning tourists to explore specific locations. However, the long-term success of these strategies depends on sustained support from the government and key tourism-related organizations.

A major challenge for the Malaysian government in advancing this initiative lies in defining local food heritage within the nation's diverse cultural landscape. This complexity reflects broader questions of cultural representation in the construction of national identity. The *National Heritage Food List* (NHFL) appears to function as a strategic tool for maintaining balance in representing culinary traditions from the three largest ethnic communities—Malays, Chinese, and Indians—helping to mitigate potential intra-ethnic tensions regarding the recognition and ownership of Malaysia's local food heritage. The involvement of multiple stakeholders, including the government, tourists, and food businesses, can be viewed as more tangible evidence of collaboration among the three largest ethnic groups. This collaboration might be improved and adjusted in terms of ensuring that all stakeholders have equal opportunities to participate and be involved. Integrating local food heritage into destination marketing strategies entails more than just placing the right images and descriptions; it also includes offering sensory experiences and leveraging the story behind the meal itself.

The adoption of a qualitative research approach is constrained by limits, particularly regarding the generalisability of results, which are confined to the scope and data type. The data, primarily from archival sources, was gathered between 2020 and January 2025. Archival materials were examined to better understand how local food heritage has been integrated into Malaysia's destination marketing strategies over time. Nevertheless, certain archive materials have restricted access and remain classified. Future empirical studies might benefit from involving researchers as team members to engage in the comprehensive process of incorporating local food traditions into destination marketing efforts. This step would enable academics to examine the discourse among many tourism stakeholders, particularly during the planning phase. Further examination of the discussions and negotiations among tourism stakeholders might illuminate the selection of particular meals or dishes that symbolise the culinary identity of the tourist destination.

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The Importance of Employability Skills for Hospitality Graduates toward Employment Status

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Abstract: Every individual strives to achieve their dream profession to lead a comfortable life. Currently, individuals are engaged in intense competition to secure employment, particularly those that offer superior perks and remuneration. In today's competitive job market, hospitality graduates need more than just technical knowledge to secure employment. The purpose of this research is to examine the elements that influence the identification of employable abilities as perceived by hospitality graduates. The research study investigates the importance of employability skills among hospitality graduates and their impact on employment status. The primary research problem addresses how soft and hard skills contribute to graduates' job market readiness. The research is quantitative, gathering data from participants through questionnaires. The total number of hospitality graduates involved in answering the questionnaire is 155 respondents. The data demonstrates that employability skills, both soft and hard, are crucial for securing job offers. Major findings indicate that graduates possessing a balanced combination of soft and hard skills have higher employment rates and better job performance. The outcome of this study is to show that employability skills, like hard and soft skills, are important for future careers after graduating from university. This study can raise awareness among current students, particularly those in the hospitality field, about the importance of enhancing their skills beyond their university education.

Keywords: *Employability Skills, Employment Status, Hospitality Graduates, Soft Skills, Hard Skills*

1. Introduction

The hospitality sector is vital to the economy of many nations (Modi, 2024). Both commercial and non-commercial settings can provide hospitality services, with a focus on food, beverages, and housing (Oren et al., 2024; Naumov, 2019). These sectors, as key players in the economy, provide a wide range of employment opportunities. In Malaysia, the hospitality industry has traditionally offered a variety of employment opportunities, such as positions in hotels, resorts, restaurants, event management, tourism agencies, and more (Yusnita et al. 2018). It is important for hospitality graduates to actively seek job opportunities, network with industry professionals, and showcase their skills and qualifications to enhance their employability. In the twenty-first century, graduates of hospitality management must equip themselves with skills to maximize their full potential in an increasingly competitive and unstable job market (Simplicio et al., 2019).

The research problem pertains to the persistent issue of unemployment among Malaysian graduates—a situation that has persisted for many years. According to the Unemployment Crisis among Fresh Graduates (2021), the fresh graduates' unemployment rate jumped to 25% in 2020, up from 13.8% the previous year. Some of the factors contributing to this increase include the COVID-19 pandemic, which has prevented people from working outside. According to the Macro Trends website, the unemployment rate in Malaysia decreased by 0.32% in 2022 compared to 2021. The estimate for the number of graduates facing unemployment in Malaysia in 2023 is close to 90,000—approximately 90,000. The number is quite substantial. The smaller the number, the better for the nation. Malaysia's Ministry of Education (MOE) conducted a survey and found that perspectives on attitudes, lack of skills, and lack of knowledge are the main factors preventing employees from finding jobs and becoming unemployed. The total number of unemployed individuals as of May 2024 stands at 566,100, a significant and concerning figure (OpenDOSM, 2024).

The research aims to examine the importance of employability skills among the hospitality graduate students of UiTM Dungun, Terengganu, for job offers. The industry requires these skills. A person's acceptance in the industry increases with the number of skills they possess. Therefore, possessing employability skills is crucial for individuals, particularly hospitality graduates, to secure job opportunities. The purpose of this study is to find out how important employability skills are to the employment status of hospitality graduates. The following are the research study's objectives:

RO1: To determine the importance of employability skills to the employment status of hospitality graduates.
RO2: To identify the relationship between hard skills and the employment status of hospitality graduates.
RO3: To identify the relationship between soft skills and the employment status of hospitality graduates.

2. Literature Review

Employability skills: Employability skills play a crucial role in preparing students for a diverse range of employment opportunities post-graduation (Azmi et al., 2018). Employability skills refer to a set of transferable skills that go beyond technical knowledge and qualifications. These skills include communication, teamwork, problem-solving, adaptability, leadership, customer service, and cultural awareness, among others (Tushar & Sooraksa, 2023). Hospitality graduates who possess these skills are more likely to stand out to potential employers and increase their chances of receiving job offers. In the context of the hospitality industry in Malaysia, employability skills play a significant role in determining the success of graduates in securing job offers (Shariff, & Abd Razak, 2022). Employers in this industry seek candidates who can effectively communicate with guests and colleagues, work well in teams, and handle various challenges that may arise in a fast-paced environment.

According to a study, "The focus on employability skills lies in the graduates' ability to adapt and apply their academic and personal skills, leading to concrete educational outcomes that directly link graduate employability with successful employment" (Sarfraz et al., 2018). Moreover, the study shows that employers actively seek these employability skills in college graduates, recognising them as fundamental qualities that underpin career advancement and facilitate lifelong learning (Calvo & Garcia, 2020). Building on this perspective, Wathy (2020) further defines employability skills as the ability to navigate the labour market effectively, enabling individuals to realise their potential through sustainable work. In essence, the collective understanding of employability skills, as articulated by these scholars, underscores their significance in shaping successful career trajectories and facilitating a seamless transition from academic preparation to the dynamic demands of the professional landscape. Balangan et al. (2021) found that employability encompasses not only the ability to secure and maintain a fulfilling job but also, in a broader sense, the ability to move independently within the labour market to realise one's potential through sustainable employment. The following is the extent to which employers discuss their perspectives on soft skills and hard skills:

Soft Skills: Azmi et al. (2018) conducted a research study that found interconnected skills such as leadership and communication abilities. According to Al Asefer et al. (2021), soft skills such as communication, problem-solving, collaboration, decision-making, leadership, critical thinking, time management, and creativity are essential in business. Kovács & Keresztes (2022) and García-Álvarez (2022) highlight the importance of soft skills, including teamwork, stress resilience, and self-management, for e-commerce and university graduates, respectively. Kumar (2022) underscores the significance of soft skills for students, highlighting their direct correlation to academic success and future professional employment. The need for continuous improvement further underscores the significance of these skills, as they are essential for effective communication, collaboration, and adaptability in the workplace.

Effective communication skills are particularly important in the hospitality industry, as employees interact with guests from diverse backgrounds. Being able to communicate clearly and professionally enhances customer satisfaction and contributes to the overall success of the business. Teamwork is another crucial skill in the hospitality industry, as employees often work in a collaborative environment. Employers highly value the ability to work well with others, contribute to a positive team dynamic, and support colleagues. Problem-solving and adaptability skills are also essential in the hospitality industry, as employees must be able to handle unexpected situations and find solutions quickly. Employers highly value the ability to think critically, make decisions under pressure, and adapt to changing circumstances.
Furthermore, leadership skills are valuable for hospitality graduates who aspire to advance in their careers.

Demonstrating leadership qualities, such as taking initiative, motivating others, and effectively managing teams, can open up opportunities for higher-level positions. Lastly, customer service and cultural awareness skills are vital in a multicultural country like Malaysia, where hospitality professionals interact with guests from various cultural backgrounds. Understanding and respecting different cultures, customs, and preferences can greatly enhance the guest's experience and contribute to the success of the business. In conclusion, employability skills are of utmost importance for hospitality graduates seeking job offers in Malaysia. Possessing a strong set of transferable skills, including communication, teamwork, problem-solving, adaptability, leadership, customer service, and cultural awareness, significantly increases the chances of securing employment and thriving in the competitive hospitality industry.

Hard Skills: Several studies have investigated the effect of hard skills on the job status of hospitality graduates. HR managers in Malaysia particularly valued problem-solving skills, according to Hasri et al. (2021), while Varra et al. (2021) emphasized the significance of specialized skills for specific job positions in the accommodation sector. Ngoepe and Wakelin-Theron (2023) further emphasized the need for a wide range of competencies, including hard skills, as identified by hotel managers in South Africa. However, Mohamad et al. (2019) revealed a gap between the supply and demand of hard skills, with employers perceiving a lack of certain competencies in fresh graduates. These findings underscore the importance of hard skills in the employment status of hospitality graduates, as well as the necessity for further collaboration between the industry and universities to bridge the skills gap.

Employment Status: Numerous studies highlight the significant influence of a myriad of factors on the employment status of hospitality graduates. Ojha et al.'s (2023) insights underscore the challenges faced by persons with disabilities in securing employment, prompting us to consider how employability skills can enhance inclusivity in the hospitality sector. Fleuren et al.'s (2020) comprehensive framework for sustainable employability becomes particularly relevant when examining how specific skills contribute to the long-term success and adaptability of hospitality graduates in a dynamic industry. Bohórquez Arévalo & Sierra Contreras (2020) call for a context-specific definition of employability that resonates with the unique demands of the hospitality field, prompting us to explore tailored indicators for success. Together, these insights emphasize the crucial link between employability skills and the employment status of hospitality graduates, urging a focused and holistic approach to preparing them for challenges and opportunities in their field.

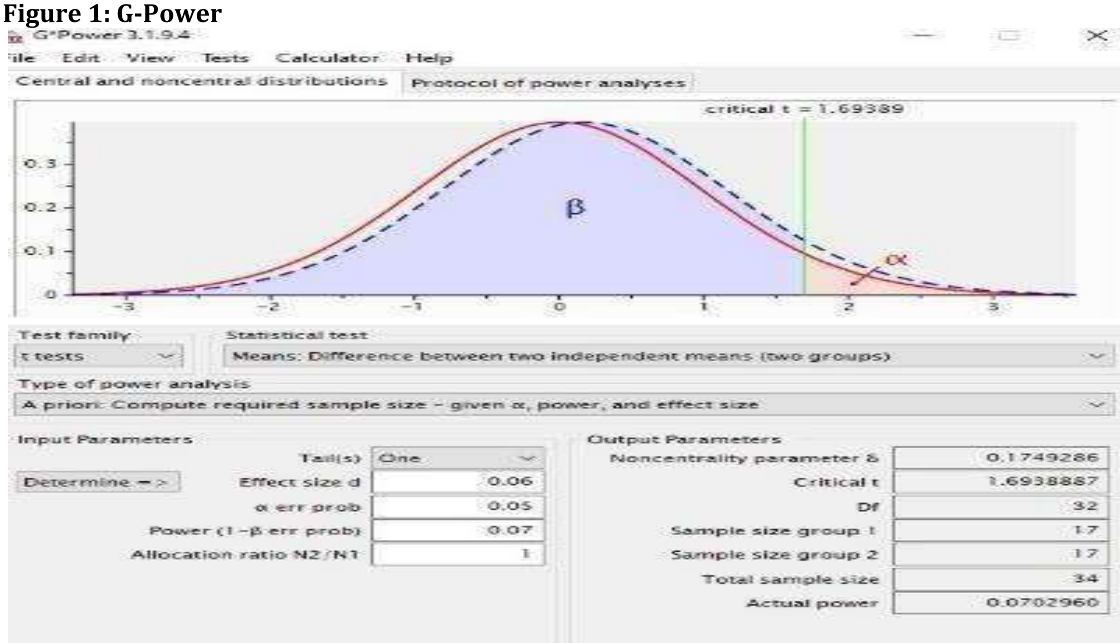
Employed: Employment, a basic feature of the socioeconomic landscape, refers to the dynamic interaction between individuals and organizations in which individuals offer their labor or services in exchange for recompense, usually in the form of pay or salaries. According to the most recent data available from the US Department of Labor, employment trends remain a significant priority, along with continued efforts to monitor and solve issues such as job creation, workforce development, and labor market dynamics. A complex network of laws, regulations, and contractual agreements controls this connection, establishing the terms and circumstances of employment. The form of work has shifted dramatically over time, determined by the interaction of economic, technical, and sociological influences. A complete review of labor laws from various countries is highlighted in "Comparative Labor Law" as stated by Williams (2004), which highlights the variance in legal frameworks governing employment interactions. These frameworks reflect the shifting requirements and expectations of both companies and employees in a fast-changing environment.

Unemployed: This has become a significant concern, particularly due to the impact of the digital revolution and the COVID-19 pandemic (Avdeeva et al., 2021). This issue is more than just a lack of jobs; it carries social implications. Unemployed individuals often face perceptions of reduced capability, leading to disparities in employment outcomes (Okoroji et al., 2023). Moreover, the consequences of unemployment extend beyond the economic realm, affecting mental health as well (Koenig et al., 2022). It's crucial to recognize that not all unemployed individuals are in the same situation; distinctions exist between those on temporary layoffs or furloughs and those without any work, with the latter group experiencing more severe and enduring repercussions (Hall & Kudlyak, 2020). This complex landscape underscores the need for comprehensive efforts to address unemployment and its multifaceted impact on individuals and society.

3. Methodology

This research will focus on a population of 326,291 hospitality graduates holding diplomas and bachelor's, and master's degrees in Malaysia (Fuza et al., 2022). The numbers cover both private and public universities in Malaysia. Through a comprehensive study, we aim to analyze the employability skills and employment status of this diverse group, shedding light on the factors influencing their career trajectories within the Malaysian hospitality sector. By selecting a representative sample from the population of 326,291 hospitality graduates with diplomas, bachelor's, and master's degrees in Malaysia, the research aims to draw meaningful insights into the relationships between employability skills and employment status, contributing to a nuanced understanding of the experiences and outcomes within the hospitality sector for this subset of graduates. On the other hand, G-Power suggested a sample size of 34 for the Pearson correlation coefficient to find a medium effect at a significance level of α = 0.05. According to G-Power, 34 respondents constitute an adequate sample size for this study. In summary, a minimum of 34 respondents is required to ensure an accurate and valid study. This study successfully gathered 155 respondents through a questionnaire, ensuring a robust study and research.

Figure 1: G-Power



The researchers selected participants from the pool of hospitality graduates using a non-probability sampling technique known as purposive sampling from hospitality graduates of UiTM Dungun, Terengganu. The researchers chose the subjects based on non-predetermined criteria, allowing for a more flexible approach to capture diverse perspectives within the target population. This means that researchers would carefully pick participants based on preset criteria such as academic performance, industry experience, or specific hospitality abilities. This study employs a five-point Likert scale-based survey instrument divided into four sections, encompassing participants' demographic profiles and their perspectives on the importance of employability skills in securing job offers among hospitality graduates. The Likert scale will gauge respondents' perceptions and experiences related to employability skills.

4. Findings

The demographic data shows that there are 155 total respondents, of whom 82 are male and the remaining 73 are female. In percentage terms, the proportion of male respondents is 52.9%, while the proportion of female respondents is 47.1%. This indicates that the majority of respondents to the questionnaire are male. Furthermore, the questionnaire identifies three age groups: 18 to 20 years old, 21 to 23 years old, and over 23 years old. Ninety-three respondents, representing 60% of the sample, are over 23 years old, while 48 respondents, accounting for 29.7%, are between 21 and 23 years old. The lowest number of respondents, aged 18 to 20 years old, accounted for just 16.3%. Other than that, the data also collects the background of the respondents' level of education. Out of 155 records, 75 individuals hold a degree, accounting for 45.4% of the respondents. Those with a diploma, pre-diploma, PhD, and master's degree follow. The number of respondents with a diploma is 58, or 37.4%. Pre-diploma: 13 respondents, 8.4%. The PhD category comprises 7 respondents, accounting for 4.5% of the total, while the master's category includes only 2 respondents, accounting for 1.3%. In addition, the respondents' total monthly income falls into four categories: less than RM1500, from RM1501 to RM3000, from RM3001 to RM4500, and above RM4500. The majority of the respondents, 90 individuals, earn between RM1501 and RM3000, accounting for 63.4% of the total income, while only 3 individuals, or 2.1%, earn less than RM1500. The group of respondents with an income between RM3000 and RM4500 comprises 40 individuals, accounting for 28.2%, while only 9 individuals, accounting for 6.3%, have an income exceeding RM4500. Tables 1, 2, and 3 present the descriptive analysis, which includes the mean, standard deviation, and ranking of each item in a single variable.

Table 1: Summary of Descriptive Analysis for Soft Skills (A)

Code	Item	N	Mean	Standard Dev	Rank
A1	I can communicate well with the Customers and the coworkers.	155	4.29	0.581	7
A2	I believe that I have great organizational skills	155	4.37	0.685	4
A3	I can get a solution after a problem appears quickly.	155	4.37	0.645	5
A4	I believe I have good decision-making skills.	155	4.32	0.674	6
A5	I can be a creative and innovative person in the workplace.	155	4.37	0.615	3
A6	I can lead the team so well.	155	4.40	0.641	2
A7	I can be a very cooperative person when it comes to team tasks.	155	4.41	0.601	1

According to Table 1, the seven items of Soft Skills (A) are ranked as follows: A7 has the highest mean (4.41) and standard deviation (0.601), followed by A6 with a mean (4.40) and standard deviation (0.641), and A1 has the lowest mean (4.29) and standard deviation (0.581).

Table 2: Summary of Descriptive Analysis for Hard Skills (B)

Code	Item	N	Mean	Standard Dev	Rank
B1	I possess a strong command of various IT skills, including programming languages, data analysis tools, and software development methods.	155	4.23	0.619	4
B2	I am fluent in English; I can speak, write, and explain things clearly in the language.	155	4.32	0.609	3
B3	I can speak another language fluently.	155	3.54	1.112	5
B4	I'm skilled at managing my time well.	155	4.52	0.638	1
B5	I'm good at analyzing complex data, finding patterns, and making smart decisions based on my discoveries.	155	4.45	0.647	2

According to Table 2, for the five items of Hard Skills (B), B4 has the highest mean (4.45) and standard deviation (0.647), and B5 has the second highest mean (4.45) and standard deviation (0.647). Lastly, B3 had the lowest mean (3.54) and standard deviation (1.112).

Table 3: Summary of Descriptive Analysis for Employability Skills among Hospitality Graduates toward Employment Status (DV)

Code	Item	N	Mean	Standard Dev	Rank
C1	Do you believe that possessing employability skills significantly impacts hospitality graduates? Ability to secure employment?	155	4.87	0.337	3
C2	Do hospitality graduates who possess strong employability skills have better career prospects within the hospitality industry?	155	4.92	0.271	1
C3	Do you think that employers in the hospitality sector prioritize candidates with a diverse range of Employability skills?	155	4.82	0.404	4
C4	Do you perceive employability skills as crucial for hospitality graduates in achieving and maintaining successful careers in Employment?	155	4.88	0.320	2

According to Table 3, the four items of employability skills among hospitality graduates toward employment status (DV) are as follows: C2 has the highest mean (4.92) and standard deviation (0.271), C4 was the second highest with a mean (4.88) and standard deviation (0.320), and lastly, the lowest was C3 with a mean (4.82) and standard deviation (0.404).

Pearson's Correlation Analysis

Pearson's correlation analysis is the most well-known way to measure the linear correlations between two variables. In this study, the dependent variable is employment status, while the independent variables are hard skills and soft skills. The researchers must prove and discover the relationship between hard skills and employment status, as well as the relationship between soft skills and employment status, using SPSS to test their statistical hypotheses.

Table 4: Correlations Analysis

		Correlations		
		Employment Status	**Soft Skills**	**Hard Skills**
Employment Status	Pearson Correlation	1	0.181*	0.182*
	Sig. (2-tailed)		0.033	0.032
	N	155	155	155
Soft Skills	Pearson Correlation	0.181*	1	0.705**
	Sig. (2-tailed)	0.033		0.00
	N	139	155	155
Hard Skills	Pearson Correlation	0.182*	0.705**	1
	Sig. (2-tailed)	0.032	0.000	
	N	139	155	155

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 indicates that the soft skills among hospitality graduates toward employment status have presented a correlation of $r = 0.181$ ($p = 0.033 < 0.05$). Moreover, it also shows that hard skills among hospitality graduates toward employment status correlate, $r = 0.182$ ($p = 0.032 < 0.05$).

Hypothesis Testing

The results of the hypothesis test, as presented in Table 5, illustrate both the hypothesis and its outcome.

Table 5: Summary of Hypothesis Testing

Items	Hypothesis	Result of Hypothesis
H1	There is a relationship between soft skills among hospitality graduates and their employment status.	Supported P = 0.033 < 0.05
H2	There is a relationship between hard skills among hospitality graduates and their employment status.	Supported P = 0.032 < 0.05

H1: There is a relationship between soft skills among hospitality graduates and employment status.

Table 5 indicates that soft skills have a significant value of 0.033, which is below the threshold of 0.05. Therefore, there is a significant relationship between soft skills and employment status among hospitality graduates. Accordingly, H1 is supported.

H2: There is a relationship between hard skills among hospitality graduates and employment status.

According to Table 5, hard skills have obtained a significant value of 0.032, which is lower than 0.05. Therefore, there is a significant relationship between hard skills and employment status among hospitality graduates. Accordingly, H2 is supported.

Discussion

Employability skills are crucial for hospitality graduates in terms of their employment status. Individuals possessing a high level of employability skills are more likely to secure a job offer. Developing countries require skilled workers (Sukardi et al., 2023). The aforementioned data unequivocally demonstrates that industry professionals assert the significance of employability skills, both hard and soft, in securing job offers from companies or hotels. The hypothesized relationship between soft skills and employment status yields a value of 0.033, which is less than 0.05. This proves the variables have a relationship with each other. The hypothesized relationship between hard skills and employment status yields a result of 0.032. If the results are lower than 0.05, this proves that hard skills influence the employment status of hospitality graduates.

Ojha et al.'s (2023) insights highlight the difficulties faced by individuals with disabilities in securing employment, prompting us to explore how employability skills can enhance inclusivity in the hospitality sector. Hospitality companies require workers with a wide range of skills and expertise to contribute to their growth. Every hotel has its unique mission to achieve a specific level of sales and revenue annually. A highly skilled and competitive associate can assist the company in achieving its goals. Professional employment necessitates not only strong academic grades but also the acquisition of skills and experience. Nowadays, people are competing to get a better job so they can survive. Having good grades and decent employability skills increases the likelihood of receiving a job offer. Those with a wide range of skills, both soft and hard, will benefit greatly. Therefore, employability skills influence the employment status of hospitality graduates.

Hard skills significantly influence the employment status of graduates in the hospitality industry. Companies look for hard skills in candidates. Hasri et al. (2021) discovered that HR managers in Malaysia particularly valued problem-solving skills. HR managers in Malaysia recognize problem-solving skills as a hard skill. These skills are crucial to each staff member in every company. Companies require staff with strong cognitive abilities, the capacity to generate innovative solutions to problems, and the ability to propose improvements for the benefit of the company.

Hospitality graduates have the opportunity to enhance their skills independently, such as through internships. They learn from all the organizations that contribute to the hotel. While interning, they learn as much as possible from the seniors and staff. They can develop and teach themselves all the skills they need to be better individuals in the future. If they portray a positive attitude and commitment during the internship, there are higher chances for them to receive a job offer from the companies. Companies typically hire individuals who possess multitasking skills, which enable them to perform multiple tasks simultaneously, thereby demonstrating their ability to work efficiently and handle the pressures of their assigned tasks. Hard skills are crucial in today's world, as they can provide a distinct advantage to their possessor.

Skills are important for a job offer from any company. Based on all the data above, soft skills are one of the main factors that can influence employment status. What are soft skills? Communication, problem-solving, collaboration, decision-making, leadership, critical thinking, time management, and creativity are examples of soft skills that are essential in business, according to Al Asefer et al. (2021). All these skills are essential for a good worker who can contribute to the growth of the company alongside other staff members. For instance, without soft skills such as leadership, an individual or staff member will struggle to effectively lead and collaborate with their colleagues to complete all assigned tasks. In the 21st-century economy, soft skills have become a crucial factor for graduate employability (Stewart, 2017). These skills are important for future employability, especially for fresh graduates without experience.

Soft skills are not inherited from parents or professional families. Soft skills can be developed and gained through learning and practice. Some companies prioritize individuals with soft skills over those with hard skills, as reported by Al Asefer et al. (2021). Those who develop all their skills will have a greater advantage in securing a job offer compared to those who only possess good grades. In today's world, individuals can access a wealth of information through online platforms like YouTube and Google Chrome. All the information needed to develop soft skills is readily available online. They can access all the information for free and strive to practice as much as they can. Hence, they will be able to develop these soft skills for themselves. In summary, soft skills are crucial for individuals today in pursuing their desired careers.

5. Conclusion and Recommendations

In conclusion, employability skills matter to every hospitality graduate's employment status. Every individual must develop employability skills, both soft and hard, to secure a better job in the future. The study was able to prove to all the students or graduates from any field, especially hospitality courses, that employability skills are a must for every person. Students should strive to develop all their skills as their studies are essential for a brighter future. After graduating from colleges or universities, students who possess solid skills are more likely to gain acceptance into companies or hotels. Companies and hotels seek employees who possess a variety of skills, not just academic excellence. Those with both good grades and multiple skills will have a distinct advantage. Both soft and hard skills can play a significant role in securing job offers. You can develop and learn these skills online, through training programs, and through other means. Parents do not inherit this skill or talent, but it takes time, perhaps weeks or months, to develop into a solidly skilled individual. Therefore, students should strive to enhance their employability skills to secure better career opportunities. In summary, research has proven the importance of employability skills for hospitality graduates in securing a good job in the future.

Furthermore, this study is subject to several limitations. Firstly, a significant limitation of this study is the difficulty in locating relevant articles, particularly those that discuss the employment status of hospitality graduates. The articles for this study are not as widely available as others on the internet, and locating them can be a time-consuming task. The latest number of hospitality graduates is also hard to find due to a lack of sources that provide surveys and updates about the graduates, especially hospitality graduates.

For future studies, the researchers will focus on fresh graduates who just finished their internship at the hotel, to determine whether they can get the job offer during and after their internship at the company. The key elements or factors that make the employer interested in hiring a person include great communication skills, which is one example that the employers will consider. This is vital to study so that all the students who will face their internship will do the same things to get job offers after they finish their studies.

In addition, our future study will focus on the characteristics and criteria of employability skills from the perspective of the employer. Human Resources management and company management will be our respondents. The study focuses on collecting and asking questions about the other criteria needed for job recruitment. The employer will share the criteria that they want to find and see in the candidate before joining the company. This research will benefit people who want to face interviews for a new job in the future and not just for the hospitality industry. All the criteria that the company wants will be good lessons and preparation for candidates before they attend the interview. For instance, if the company requires a Halal Certificate Handler, candidates should attend and obtain the certificate beforehand to increase their chances of being hired by the company. Therefore, candidates should adhere to the company's requirements to streamline the recruitment process.

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Exploring the Impact of Women's Knowledge and Attitude Towards Food Waste Management Practices in Melaka Tengah, Melaka

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Abstract: Food waste is a significant global issue, and Malaysia is no exception. It has far-reaching negative effects, including higher food production costs, adverse impacts on human health, and environmental degradation. Therefore, this study assesses women's knowledge and attitude towards food waste management in Melaka Tengah, Melaka. An online self-administered questionnaire with a Likert scale was distributed among 384 respondents as part of the study's quantitative methods. The Statistical Package for the Social Sciences (SPSS) Version 26 was used for data analysis. The data analysis methods included reliability, descriptive, and Pearson correlation analyses. The results indicated a positive correlation between knowledge and attitudes toward food waste management practices among women in Melaka Tengah, Melaka. Effective food waste management is essential for building sustainable systems and addressing the interconnected social, economic, and environmental challenges posed by waste.

Keywords: *Food Waste Management, Knowledge, Attitude, Practices, Women.*

1. Introduction

Food waste involves food for human consumption that has been wasted or not eaten. Food waste includes a portion of food that is unfit for human consumption and removed from the supply chain to be discarded or recovered. In this regard, food waste, including ploughed and harvested crops and organic wastes that can produce bioenergy and biogas, could be discarded through composting, open burning, or disposal in sewers, landfills, or disposed of in the ocean (Nordin et al., 2020). Typically, women are responsible for household chores, such as food waste management, due to power relationships in households. This suggests that they can play an important role as household managers, and play a crucial role in reducing food waste (Ahmadi, 2018). Besides, food waste is more prevalent in women than in men (Zahara et al., 2021).

Issues related to food waste have been increasing annually. There has been much attention on avoiding or reducing food loss and food waste and recent research has shown that young adults 18 to 24 years old have a higher tendency to waste compared to other age groups (Henry, 2018). Furthermore, women were found to exhibit food acquisition and preparation behaviors that result in higher food waste than men (Ramona Cantaragiu, 2019). According to Hadiningrat (2020), women are responsible for 85-90% of food preparation and cooking, which may make them more likely to reduce food waste. In 2020, approximately 35% of the waste generated in Melaka City was organic food waste, making it the most common form of waste in the area. Effective food waste management can lead to cost savings for households and businesses by reducing the amount of waste that needs to be processed and disposed of (Resilient Cities Network, 2022). This study can contribute to more sustainable waste management practices in Melaka Tengah.

Hence, this research aims to explore the knowledge and attitudes of women in Melaka Tengah, Melaka towards food waste management practices. Achieving effective waste management practices requires a combination of adequate knowledge and appropriate approaches. This study will clarify how women manage food waste and handle excess food.

Therefore, the main objectives of this research are shown below:
RO1: To determine the relationship between knowledge among women in Melaka Tengah, Melaka, and food waste management practices.
RO2: To determine the relationship between attitudes among women in Melaka Tengah, Melaka, and food

waste management practices.

2. Literature Review

Knowledge About Food Waste Management: Knowledge is a consequence of getting and improving learning; in this regard, information is important as it guides people to complete tasks, settle on a choice, or tackle an issue. Thus, in the context of campaign planning and information dissemination, the use of enticing messages is fundamental to reaching a decisively significant crowd (Abd Razak, 2017). Nevertheless, according to Aschemann-Witzel et al. (2015), people have at least some understanding of how to manage food in their families, yet they regularly do not act according to their insight. A previous study by Srivastava (2020) found that women's lack of knowledge can have an adverse influence on waste management. Women's knowledge of food waste management is crucial, as they often play a central role in household food practices. Studies indicate that women are more concerned about the negative impacts of food waste on social equity and family budgets compared to men (Ramona Cantaragiu, 2019). Research focusing on housewives in Indonesia highlights that their knowledge, attitudes, and practices significantly influence food waste management within households. The study found that housewives' understanding of food waste and their proactive approaches are essential in reducing waste (Zahara et al., 2021).

Attitudes Towards Food Waste Management: Attitudes are frequently formed as a result of personal experience or upbringing, and they can have a significant impact on behavior. While opinions can last a lifetime, they can also shift (Susman, 2021). However, the study adds to earlier findings by revealing that women are more prone than males to see food waste as an indication of social inequity and to be concerned about the plight of children from low-income households who are hungry (Ramona Cantaragiu, 2019). According to Ramona Cantaragiu (2019), women's attitudes toward food waste management are influenced by various factors, including cultural norms, economic considerations, and environmental concerns. In certain regions, women are more likely to purchase local and organic food products, reflecting a higher concern for nutritional and sustainability aspects related to food. This tendency can positively impact the amount of food wasted, as individuals who buy local produce tend to waste less.

Food Waste Management Practice: Practices can be defined as an action to do something repeatedly to improve at it, as well as an action to do something regularly as part of one's daily routine. Ineffective and effective waste management has diverse effects on human and environmental health, with ineffective management causing harm while effective management promotes both human and environmental health (Adogu et al., 2015). People engage in practice in tandem with their increasing knowledge and attitudes. As a result, by improving knowledge and attitudes about food waste management, the practice of waste management can be improved. People may be more likely to embrace good waste management practices if they are aware of the negative consequences of inadequate trash disposal (Bashir et al., 2020).

Women: According to Ramona Cantaragiu (2019), women waste less food than men. However, other studies have yielded contradictory findings, particularly regarding the behavior of single women, who are reported to produce more food waste compared to single men or couples (Silvennoinen et al., 2014). This indicates that women 's behavior will most likely change as they get older and begin to form relationships as their responsibilities in the home change. Women are typically responsible for grocery shopping and meal preparation in most households with people of both genders (McCarthy & Liu, 2017). According to Ramona Cantaragiu (2019), women are more likely to buy local food and organic food products because they are more concerned about the nutritional and sustainability aspects of food. This may reduce the amount of food wasted by women because previous research has shown that people who buy local produce waste fewer vegetables and fruits or fewer food products overall (Setti et al., 2016). As household managers, women play a crucial role in reducing food waste. (Hadiningrat, 2020). In Melaka Tengah, women's employment patterns significantly influence their engagement in food waste management. Nationally, women are predominantly employed in the manufacturing sector, which employs approximately 61% of women workers, notably higher than the global average for upper-middle-income countries (United Cities and Local Governments, 2022). This sector's demanding work schedules and long hours can limit women's time and energy for household tasks, including food waste management. Consequently, women with such employment may have less opportunity to engage in sustainable food practices, such as composting or waste segregation. Conversely, women in sectors with more flexible hours, such as retail or education, might have greater capacity to implement effective food waste management strategies at home. For instance, a study on household food waste management in Bangladesh found that women in owner-occupied homes demonstrated more comprehensive food waste management practices compared to those in rented houses (Tahera et al., 2024).

3. Methodology

In this study, quantitative methods and descriptive analysis were applied to determine how women in Melaka Tengah, Melaka, manage their food waste. This study also examined the relationship between knowledge and attitudes among women in Melaka Tengah, Melaka, towards food waste management practices.

The sample size was further determined for women in Melaka Tengah, Melaka, based on their current population. As the population of women in Melaka Tengah is estimated at 285,300 (Department of Statistics Malaysia, 2020), the estimated sample size is 384 respondents based on Krejcie and Morgan (1970). Women in Melaka Tengah were chosen as a sample to answer this questionnaire because food waste from households is the largest contributor to food waste (Jereme et al., 2016). Data was collected from each individual for this purpose. Hence, the unit of analysis is the individual woman. This study employed a non-probability purposive sampling. Non-probability purposive sampling is a common method used when researchers deliberately select participants based on specific characteristics, criteria, or expertise relevant to the research. In addition, this sampling technique can save time and resources by focusing only on participants likely to provide valuable insights.

In this study, the design of the questionnaire survey was based on a nominal scale. The closed-ended questions were included in the questionnaire and a Likert scale column was used. The questionnaire employed a five-point Likert scale that indicates strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5) (Bashir et al., 2020). The questions were kept simple and clear, considering the respondent's profile.

Primary and secondary data were collected as part of this study. Primary data were collected using a questionnaire distributed online using Google Forms. The respondents were required to complete all four sections of the questionnaire. Then, the Statistical Package for the Social Sciences (SPSS) was used to analyze the data. The data from the respondents' demographics were evaluated using descriptive statistics. A Pearson correlation will be used to study the relationship.

The hypotheses of this research are shown below:
H1: There is a significant positive relationship between women's knowledge and food waste management practices.
H2: There is a significant positive relationship between women's attitudes and food waste management practices.

4. Findings and Results

Reliability Analysis

According to Heale and Twycross (2015), reliability means the consistency of measurements. In this study, Cronbach's alpha was used to determine the instrument's internal consistency, and the acceptable reliability score is 0.7 and higher. A pilot test involving 30 women in Melaka Tengah was conducted before the actual data collection. According to the data collected, the knowledge variable has a score of 0.707, while the attitude variable has a score of 0.844. For practice, the score is 0.734.

Table 1: Results of Reliability Analysis

Variables	Cronbach's Alpha	No. Of Items	No. Of Respondents
Knowledge	0.707	8	30
Attitude	0.844	9	30
Practices	0.734	10	30

Demographic Profile
This section describes the screening question used to determine the respondent's descendant. In addition, this section provides information about the respondents' backgrounds, such as age, education level, employment status, subdivision/ township, and marital status.

Table 2: Frequency Results of Screening Question

	Frequency	Percentage (%)
Screening Question	27	
Women	329	85.7
Non-Women	55	14.3

The screening question is necessary to meet the requirements of data distribution as it was distributed online. Only 329 of the 384 respondents can be used as data, with the remaining 55 considered invalid because they are not women.

Table 3: Respondents' Profile

	Category	Frequency	Percentage (%)
Age	18 – 20 years	13	4.0
	21 – 25 years	142	43.2
	26 – 30 years	49	14.9
	31 – 35 years	26	7.9
	36 – 40 years	32	9.7
	41 – 45 years	13	4.0
	46 – 50 years	12	3.6
	50 – 60 years	42	12.8
Education level	Sijil Pelajaran Malaysia (SPM)	44	13.4
	Diploma	81	24.6
	Degree	179	54.4
	Master	16	4.9
	Other	9	2.7
Employment status	Employed	178	54.1
	Unemployed	151	45.9
Subdivision/ township	Bukit Baru	10	3.0
	Bandar Melaka	133	40.4
	Ayer Molek	23	7.0
	Batu Berendam	23	7.0
	Bukit Rambai	36	10.9
	Kandang	7	2.1
	Klebang	38	11.6
	Paya Rumput	19	5.8
	Sungai Udang	25	7.6
	Tangga Batu	11	3.3

	Tanjung Kling	4	1.2
Marital status	Single	161	48.9
	Married	141	42.9
	Widow	27	8.2
	Total	**329**	**100**

Table 3 describes the respondent's profile based on their age, education level, employment status, subdivision/ township, and marital status. The majority of women who participated in this research were at the ages of 21-25, with 43.2% (142 respondents). This occurs because, at this age, they are gadget-savvy and used to fill up online questionnaires compared to others. This is followed by 26-30 years old with 14.9% (49%), 50-60 years old with 12.8% (42 respondents), 36 - 40 years old with 9.7% (32 respondents), 31-35 years old with 7.9% (26 respondents), 18 - 20 years old and 41 - 45 years old shared the same percentage with 4.0% (13 respondents) and lastly 46 - 50 years old with 3.6% (12 respondents).

For education level, the majority of respondents were degree holders at 54.4% (179 respondents), followed by diploma holders at 24.6% (81 respondents), Sijil Pembelajaran Malaysia (SPM) at 13.4% (44 respondents), master with 4.9% (16 respondents) and lastly other with 2.7% (9 respondents). Next, for their employment status, most of the respondents were employed with 54.1% (178 respondents) and unemployed with 45.9% (151 respondents). Furthermore, in terms of their location, the highest number of respondents was from Bandar Melaka with 40.4% (133 respondents), Klebang with 11.6% (38 respondents), Bukit Rambai with 10.9% (36 respondents), Sungai Udang with 7.6% (25 respondents), Ayer Molek and Batu Berendam shared the same percentage with 7.0% (23 respondents), Paya Rumput with 5.8% (19 respondents), Tangga Batu with 3.3% (11 respondents), Bukit Baru with 3.0% (10 respondents), Kandang with 2.1% (7 respondents) and Tanjung Kling with 1.2% (4 respondents). Lastly, for marital status, singles scored the highest percentage with 48.9% (161 respondents), married with 42.9% (141 respondents), and divorced/widowed with 8.2% (27 respondents).

Descriptive Analysis

Table 4: Results of Descriptive Analysis

					Scale				
No.	**Questions**	**Mean**	**Min**	**Max**	**1**	**2**	**3**	**4**	**5**
Knowledge									
1.	Freshness labels are something I'm familiar with.	4.0365	1	5	39	23	1	42	224
2.	More food waste in the home means more money wasted.	4.2462	2	5	0	66	7	27	229
3.	It is essential to specify the expiry date on food products to avoid food poisoning and illness.	4.7599	4	5	0	0	0	78	251
4.	I will have a positive attitude about food waste if our community implements a food waste recycling scheme.	4.4286	2	5	0	23	11	94	201
5.	I make an effort to reduce food waste.	4.0395	1	5	24	27	0	139	139
6.	I'd like to do something to prevent food waste.	3.5410	1	5	27	84	3	110	105
7.	Before going shopping, I check the refrigerator.	3.6717	1	5	15	80	3	123	108
8.	Food waste recycling can provide a source of income.	3.7599	2	5	0	90	7	119	113
Attitude									
1.	I feel bad about wasting food.	3.9119	1	5	10	57	4	139	119
2.	My efforts to reduce food waste are ineffective.	3.3009	1	5	7	119	2	109	92
3.	I'm not bothered by food waste.	2.6170	1	5	154	36	12	4	123
4.	After each meal, I immediately throw any leftovers into the garbage can.	3.2888	1	5	57	53	42	69	108

5.	I recycle food waste when it is convenient for me to do so.	3.0881	1	5	9	154	4	85	77
6.	Weekly meal planning, in my opinion, is cost-effective for a household budget.	3.5836	1	5	45	45	34	72	133
7.	When shopping for food, I believe a grocery list is essential.	3.6626	1	5	65	1	67	33	163
8.	I feel that purchasing only the items on the list will help me save money and food waste.	3.4924	1	5	88	7	9	40	185
9.	I don't believe the food I throw away is expensive.	3.0669	1	5	116	28	25	8	152
Practices									
1.	I discard food that is blemished, wilted, moldy, dried, or otherwise shows signs of spoilage.	4.2340	2	5	0	21	45	81	182
2.	Even if it has not been opened, I discard packaged food that has passed its 'best before' date.	3.7933	1	5	28	26	58	84	133
3.	When I go shopping, I make minor purchases regularly.	3.2401	1	5	48	65	47	75	94
4.	I eat meals bought from restaurants, fast food or food trucks.	3.3860	1	5	13	111	4	105	96
5.	I keep leftovers in the refrigerator and consume them afterward.	3.2766	1	5	50	67	38	76	98
6.	Some members of the home do not always consume all of their food.	3.6839	2	5	0	82	5	125	117
7.	We are generally too busy to cook the meals that we planned.	3.3252	1	5	45	57	54	73	100
8.	I followed the storage directions.	3.3647	2	5	0	131	3	84	111
9.	For food and leftovers, I have storage containers.	3.7356	1	5	28	45	39	64	153
10.	I am educated about the best methods for storing various foods.	3.2644	1	5	45	68	52	76	88

Table 5: Summary of Descriptive Analysis

	Mean	Std. Deviation	N
IV1 (Expiry date)	4.7599	0.42781	329
IV2 (Feel bad about wasting food)	3.9119	1.15617	329
DV (Discard spoiled food)	4.2340	0.94833	329

The descriptive analysis determined the mean scores for 3 variables, knowledge, attitude, and practices. A 5-point Likert scale ranging from strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5) was also used. In this study, data frequencies were used to answer the research questions. Table 4 summarizes the results of the descriptive statistics for all the variables. The most frequent variable viewed by the respondents is expiry date, with the highest mean (4.7599), followed by feeling bad about wasting food (3.9119). This shows that the respondents frequently look at the expiry date on the food label before buying food products. This is in line with Ahmmed and Mohammed (2014), who highlighted the importance of checking the expiry date to ensure the quality as well as the safety of the food products before buying. Furthermore, it indicates that the women have more knowledge of the expiry date compared to other variables. Moreover, feeling bad about wasting food was the second highest variable for their attitude. According to Ramona Cantaragiu (2019), studies have shown that women tend to often express feelings of guilt when they waste food because they take this as a sign that they are not properly managing the household and that they are failing to provide sustenance for their family members.

Pearson Correlation Analysis

Table 6: Rule for Pearson Correlation Analysis

Strength of Relationship	Coefficient, R Positive	Negative
None	0.0 to 0.1	0.0 to -0.1
Weak	0.1 to 0.3	-0.1 to 0.3
Moderate	0.3 to 0.5	-0.3 to -0.5
Strong	0.5 to 1.0	-0.5 to -1.0

Source: Cohen (2013)

Table 6 presents the Pearson Correlation rule, which was used to interpret a correlation coefficient, r. The Pearson Correlation was used to determine the relationship between independent and dependent variables. Correlation coefficients can range from +1 to -1. If the value is 0, that means there is no relationship between the two variables. A value greater than 0 indicates a positive relationship; that is, as the value of one variable increases, the value of the other variable increases as well.

Table 7: Correlations Between Knowledge and Practices

		Knowledge	Practices
Knowledge	Pearson Correlation	1	.265**
	Sig. (2-tailed)		.000
	N	329	329
Practices	Pearson Correlation	.265**	1
	Sig. (2-tailed)	.000	
	N	329	329

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

Table 7 shows the correlation result between the knowledge of women in Melaka Tengah, Melaka, towards food waste management practices. The positive correlation (r = 0.265) and p-value between knowledge and practices suggest that as knowledge increases, practices tend to improve, although the effect is not strong. This may be because most women in the study were employed and did not have time to practice reducing food waste. According to Andrzejewska (2021), individuals who are unemployed or work part-time tend to waste less food than those working full-time. Besides that, Abdul Jalil et al. (2022) revealed a weak positive correlation between knowledge and practice, suggesting that higher knowledge levels did not strongly predict better food waste management practices. In contrast, Abd Razak (2017) found that a common factor influencing consumer practices regarding food waste is a lack of knowledge.

Table 8: Correlations Between Attitude and Practices

		Practices	Attitude
Practices	Pearson Correlation	1	.259**
	Sig. (2-tailed)		.000
	N	329	329
Attitude	Pearson Correlation	.259**	1
	Sig. (2-tailed)	.000	
	N	329	329

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

Table 8 shows the result of the Pearson Correlation to determine the relationship between attitude and food waste management practices. The R-value of attitude and practices is 0.259, indicating a weak positive linear relationship between attitudes among women in Melaka Tengah, Malacca, towards food waste management practices. This is because most young women are not aware of food waste practices. According to Ramona Cantaragiu (2019), for the participants below 30, the study has shown that women are more likely to adopt behaviors that can lead to higher amounts of food waste, not prioritizing the consumption of food items based on the expiration date and cooking more than the household can consume. Additionally, Abdul Jalil et al. (2022) agreed that there is a positive correlation between attitude and practices on food waste management.

Discussion

Based on the data presented above, the study found that independent and dependent variables have a positive association, which causes both variables to move in the same direction. In this light, the dependent variable will increase along with the independent variables or otherwise. The first objective was to determine the relationship between knowledge among women in Melaka Tengah, Melaka, towards food waste management practices. According to Table 7, knowledge among women in Melaka Tengah, Melaka, towards food waste management practices has a weak positive relationship because the correlation is r=0.265. Hence, an increase in knowledge will increase the perception of women in Melaka Tengah. It means that the practices of food waste management will change because of their knowledge. According to Abd Razak (2017), knowledge has a positive impact on food waste management practices only if involvement is high and vice versa. In addition, Rani et al., (2024) found a significant positive correlation between environmental knowledge and food waste behaviors among hospitality students. The findings suggest that there was a positive significant correlation between increased environmental knowledge and better food waste management and sustainability-related behaviors.

The second objective was to determine the relationship between attitudes among women in Melaka Tengah, Melaka, towards food waste management practices. According to Table 8, the result showed that attitudes among women in Melaka Tengah, Melaka, towards food waste management practices have a weak positive linear relationship because the correlation is r=0.259. If the attitude increases, the perception of women in Melaka Tengah will increase. It means that the practices of food waste management will change because of their attitudes. According to Abd Razak (2017), it shows that people who reduce food waste are more involved in the food waste issue. This finding was supported by the study of Abdul Jalil et al. (2022), which reported a positive significant correlation between attitude and practice regarding food waste management among health sciences students.

Bashir et al. (2020) revealed that knowledge and attitude have a positive relationship toward proper waste management practices among night market food operators. It emphasizes the importance of understanding this relationship to promote effective food waste management. These studies collectively suggest that enhancing knowledge about environmental and waste management issues can positively influence attitudes and practices related to food waste management in Malaysia. Therefore, based on the results, it can be concluded that the first and second objectives were achieved because the hypothesis was accepted.

5. Conclusion and Recommendations

In conclusion, this study has explored the knowledge and attitudes among women in Melaka Tengah, Melaka, towards food waste management practices. The findings prove that there is a relationship between knowledge and attitude among women in Melaka Tengah, Melaka, towards food waste management practices. This study also adds new information by exploring research opportunities and gaps related to food waste management in Melaka that the previous researchers did not address. It also explored the extent of women's knowledge and the new attitudes of women in Melaka Tengah towards food waste management practices. Future researchers could explore ways to enhance understanding of food waste management in each state of Malaysia. Such studies would contribute to a broader appreciation of the importance of managing food waste across all states in Malaysia.

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Factors That Influence Food Waste Behavior Among Hospitalized Patients in Hospital Raja Perempuan Zainab II

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Abstract: Food waste in hospitals is a significant issue with implications for both environmental sustainability and healthcare efficiency. This study investigates the factors of food attributes influencing food waste behaviour among hospitalized patients in Hospital Raja Perempuan Zainab II (HRPZ II). Specifically, it seeks to examine how food quality, food presentation and food portion affect consumer behaviour towards food waste problems among hospitalized patients. A mixed-methods approach was used, collecting data via surveys from hospitalized patients. The questionnaire, divided into six sections employed a Likert scale for nuanced responses. This descriptive, cross-sectional study utilized purposive sampling to ensure relevant perspectives, targeting 417 respondents to boost validity and reliability. Statistical Package for the Social Sciences (SPSS) Version 27 was used for data analysis from the questionnaire. The data analysis methods used include reliability analysis, descriptive analysis, Pearson correlation, and multiple regression analysis. The findings revealed that food attribute variables—food quality, food presentation and food portion—positively influence consumer behaviour towards food waste problems among hospitalized patients, with food presentation emerging as the most significant predictor. These findings highlight the critical need to minimize the environmental impact throughout the entire food cycle, from production to the disposal of leftover waste, to reduce food waste disposal problems in hospitals. Academically, this study serves as a foundation for future research, encouraging scholars and practitioners to further investigate the long-term effects of educational initiatives and cultural factors on food waste behaviors in advancing environmental sustainability.

Keywords: *Food Quality, Food Presentation, Food Portion, Food Waste, Public Hospital.*

1. Introduction

Food is any substance, liquid or solid, that provides the body with necessary nutrients. The main ingredients of food include proteins, carbohydrates, fats, and other nutrients that the body needs for growth, development, and other essential processes. Food is necessary for survival and plays a significant role in the economy (Britannica, 2019). However, food waste has become a growing issue, especially in institutional settings like hospitals. In hospitals, food supplies for patients must meet specific standards or guidelines through menu planning, assessment of the nutritional needs of the hospital population, and providing useful suggestions for food selections suited to various dietary needs, including special and therapeutic diets. Despite these efforts, food waste remains a problem, as a significant amount of food prepared for patients is discarded due to preferences, dietary restrictions, or poor presentation. Additionally, hospitals are required to serve meals that comply with menu specifications and dietary needs, including low-fat, gluten-free, vegan, and other types of diets (National Catering and Nutrition Specification for Food and Fluid Provision Hospitals in Scotland, 2016). Addressing food waste in hospitals is crucial to ensure that food resources are used efficiently and sustainably.

Food waste can be defined as using food meant for human consumption for non-human purposes, repurposing food for animal feed, or throwing away edible food (Rusyda, 2024). Nonetheless, preliminary data on food waste from the perspective of facility management has shown how serious the issue is. According to Wafi and Tumiran (2022), the Department of National Food Waste discovered that approximately 45 percent of the 29,000 tons of waste solids generated daily in Malaysia were derived from food waste. Therefore, food waste has an impact on the environment by releasing dirty gases that contribute to climate change. Referring to Chauhan et al. (2021), food service institutions such as hotels, restaurants, and institutional food outlets such as hospitals caused 8% of food waste problems. Food waste has become a major problem nowadays, particularly in hospitals where it is claimed that many patients refuse to eat because the food does not suit their tastes. Wang et al. (2022) have reported 15% of food trays that are delivered to the ward for patient consumption are brought back untouched to the dishwashing area for disposal. As a result, hospitals are one of the establishments that become contributors to the creation of waste in Malaysia (Osman et al., 2021).

A hospital is a facility that has been set up, manned, and furnished to diagnose illnesses, treat patients medically and surgically, provide lodging during the process, and treat injured patients. According to Chemah et al. (2018), a hospital is one of the eateries that provides on-site patient food service. The preparation, distribution, and serving of safe food is the aim of any food service organization. Any hospital food service must have competent management in place to maximize patient food and nutrient intake while successfully reducing waste. Chemah et al., (2018) claim that some researchers found that food presentation and variety are the primary factors that influence patients' satisfaction towards meal services in hospitals. Patients' satisfaction with the food served to them is claimed to lead to zero plate waste. This is related to food attributes and quality, which include taste, diversity of food, flavor, food temperature and texture that influence consumer satisfaction towards products offered by food service establishments. Other than that, food quality, food preparation and food portions also influence food waste behavior among hospitalized patients in HRPZ II. Thus, this study aims to answer the following research objective:

RO1: To identify the relationship between factors of food quality and food waste behaviors among patients in public hospitals.
RO2: To examine the relationship between factors of food presentation and food waste behaviors among patients in public hospitals.
R03: To examine the relationship between factors of food portions and food waste behaviors among patients in public hospitals.

2. Literature Review

Food Waste

Food waste has a profound negative impact on the environment, economy, and society, making it a pressing global concern (Coşkun & Yetkin Özbük, 2020). The Food and Agriculture Organization has estimated that one-third of all food produced globally is either lost or wasted (Ishangulyyev et al., 2019). According to Dhir et al. (2020), food waste can be categorized into three main types: (a) avoidable waste, which refers to food that was once edible but becomes inedible by the time it is discarded; (b) unavoidable waste, which includes inherently inedible items like eggshells; and (c) potentially avoidable waste, such as certain food parts like potato skins, which are sometimes consumed but often discarded.

The level of food waste in hospitals is notably higher than in other food supply settings. This issue has far-reaching negative effects on health, society, the economy, and the environment, making food waste a contentious topic within hospital food service departments. Antasouras et al., (2022) stated that part of the difficulty is leftover food, in which food is served but not eaten by the patient. Despite the adequate availability of food in hospitals, many patients do not consume enough, leading to malnutrition and increased food waste. Brennan & Browne (2021) identify various factors contributing to food waste in hospitals, including clinical issues related to Nutrition Impact Symptoms (NIS), reduced appetite due to illness or medication, changes in taste or smell, swallowing difficulties, pain, textured modified diets, and other challenges associated with prolonged hospital stays.

Hospitals generate significant amounts of waste, including food waste, much of which ends up in landfills. This contributes to environmental degradation by increasing greenhouse gas emissions and pollution. Food waste exacerbates problems such as habitat destruction, nutrient depletion, air and water contamination, and climate change (Siddiqui et al., 2022). Moreover, Seberini (2020) notes that food procurement, preparation, and disposal are costly processes for hospitals. The presence of food waste inflates these costs, impacting hospital budgets and potentially diverting resources from essential patient care services. Thus, food waste creates significant economic challenges and reduces hospital revenues.

Food Quality

According to Future Learn (2022), food quality refers to the combination of features and attributes in a food item that makes it acceptable to consumers. These characteristics include appearance, texture, flavor, and more. Food quality plays a vital role in ensuring patient satisfaction, particularly regarding their meals. For patients to heal and recover, they need nutritious meals. Given the medications administered, hospital food services must ensure that the food provided is of the highest quality. Serving high-quality meals can stimulate patients' appetites (Osman et al., 2021).

Hospital food service plays a key role in meeting patients' needs and ensuring their satisfaction with the meals provided. According to the Ministry of Health Malaysia (2021), hospital food services must cater to individual patient needs and preferences while offering a balanced menu that meets their dietary requirements. Therefore, hospital food services should strive to provide the highest level of care to their patients. David et al. (2023) highlight that patients are becoming increasingly aware of food quality, which has made the healthcare sector more competitive.

Consequently, the healthcare industry now views patients as clients. Several factors influence food quality, including nutritional value, taste, appearance, freshness, odor, color, contaminants, and adulterants. Akbara et al. (2021) emphasize that assessing food quality involves evaluating the overall attributes of food, such as its flavor, freshness, and visual appeal. Maintaining high food quality in hospital food services helps prevent foodborne illnesses and ensures patient satisfaction.

Food Presentation

Food presentation refers to the arrangement and visual appeal of food on a plate or serving dish (Gluchowski et al., 2024). It involves using various artistic and culinary techniques to enhance the dish's appearance and make it more visually appealing to diners. The primary goal of food presentation is to create a pleasurable and memorable dining experience by engaging the senses, particularly sight. According to Chemah et al. (2018), research shows that food presentation and variety are among the main factors influencing hospitalized patients' satisfaction with meal services. When patients are satisfied with the food provided, plate waste is minimized. Previous studies have revealed that several factors related to food quality—such as taste, variety, flavor, temperature, and the texture of meat and vegetables—have the greatest influence on patient satisfaction with hospital food services.

Osman et al. (2021) identify two types of food-serving systems used in hospitals under the Health Ministry: centralized systems and bulk systems. The study found that bulk systems resulted in a lower percentage of food waste compared to centralized systems. In bulk systems, freshly prepared dishes are transported to ward pantries on trolleys instead of being delivered in bulk to patients' bedsides. This approach helps maintain food at the correct temperature, ensuring that meals remain warm and appetizing, which can enhance patients' appetites. However, the study also noted that using a bulk system led to an overall increase in food waste.

Food Portion

Food portion refers to the amount of food served or consumed in a single sitting, typically measured in weight, volume, or similar units (Osman et al., 2021). Portion sizes vary based on cultural norms, dietary guidelines, and personal preferences. Hospital food and nutrition services must ensure patients receive adequate diets that meet their nutritional needs during hospitalization (Wierda et al., 2024). According to Norshariza et al. (2019), dieticians play a crucial role in tailoring meals to meet individual patient requirements. For instance, patients with swallowing difficulties may be prescribed soft diets, liquid diets, or pureed food. Such adjustments help increase food intake and significantly reduce food waste. Ofei et al. (2020) found that interventions like meal replacements and reducing meal portions based on patients' clinical conditions can effectively minimize plate waste. Customizing portion sizes according to patients' preferences further contributes to waste reduction.

Additionally, implementing on-demand food services, where meals are ordered and delivered promptly, or room service models, can enhance nutritional intake while reducing waste and costs (Mackenzie-Shalders et al., 2020). Patients, such as those on diabetic diets, may limit food intake to maintain proper blood glucose control. Therefore, routine monitoring of patients' food choices, consumption, and waste should be part of a comprehensive approach to optimizing portion sizes, ensuring they contribute effectively to daily energy and protein intake (Osman et al., 2021).

Patients also prefer meals that align with their tastes and dietary habits. Common reasons for not finishing meals include differences in food preferences, lack of appetite, and inconvenient meal times. Aminuddin et al. (2018) note that older patients often have reduced taste sensitivity and distinct taste preferences compared to younger individuals, while culturally appropriate meals can enhance their comfort and satisfaction. Furthermore, patients with higher education levels tend to have higher expectations and are less easily satisfied with hospital food services. The type of catering system, whether in-house or outsourced, also impacts patient satisfaction. Addressing these diverse needs and preferences is essential to reducing food waste and improving the effectiveness of hospital food service operations.

3. Methodology

The purpose of this study is to identify the relationship between factors of food quality, food presentation and food portion towards food waste behaviors among hospitalized patients in HRPZ II. The research study involves quantitative methods, with self-administered questionnaires given to hospitalized patients. Quantitative research involves systematic data analysis, using statistical, mathematical, and computer approaches. This will be a descriptive and cross-sectional study. The research will occur in an informal setting and aim to gain a full understanding of how food quality, presentation, and portion affect food waste behaviors among hospitalized patients at Hospital Raja Perempuan Zainab II (HRPZ II) in Kota Bharu, Kelantan. The research used a purposive sampling technique, which is also known as selective sampling, that allows researchers to pick specific individuals or certain aspects of a population for research. Purposive sampling selects individuals with specific characteristics or expertise related to the research objectives. Hence, the researcher used purposive sampling, as according to Etikan et al., (2016) it is an easy and cost-effective way for conducting large-scale surveys as the method of choice for participant selection.

The questionnaires were distributed specifically to our target sample, which is hospitalized patients in HRPZ II. The questionnaire is designed to progress only for respondents who were hospitalized at Hospital Raja Perempuan Zainab II. Google Forms includes a mechanism where respondents must identify themselves as hospitalized patients to proceed to the next survey section. This careful approach is implemented to guarantee that only individuals involved as hospitalized patients contribute to the survey. This ensures the study's data is both relevant and accurate. Questions were created as comprehensibly as possible with simple language in Bahasa Malaysia and English to reduce any probable uncertainty.

According to the Unit Record of Statistics from Hospital Raja Perempuan Zainab II (2023), there were 67,019 hospitalized patients in 2023. Referring to Krejcie and Morgan's (1970) sample size table, a minimum of 381 respondents was deemed necessary for research involving this population. The survey, which spanned over a month, aimed to gather at least 381 samples to ensure accurate data analysis. Ultimately, the study included 417 respondents, surpassing the minimum requirement and providing a more robust foundation for comprehensive and reliable exploratory research. The sample consisted of hospitalized patients from Hospital Raja Perempuan Zainab II, representing various dietary categories such as normal diet, gluten-free diet, low-carb diet, and others. Screening questions were incorporated into the survey to confirm participant suitability.

The research instrument chosen for this study is a questionnaire that is carefully made containing 34 questions. Accuracy in designing the questionnaire is important to ensure that the questions are aligned with the objectives of the study. The questionnaire was structured into six sections for exploration. The first section addresses screening, followed by questions about demographic characteristics in the second section. The third, fourth and fifth sections investigate the independent variables, focusing on food quality, food presentation and food portion. Moving forward, the sixth section covers questions related to the dependent variable specifically, food waste behaviors among hospitalized patients in HRPZ II. To measure the perspective of the respondents, a Likert scale was used in these four sections. The scale ranges from 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree) to 5 (Strongly Agree), providing a nuanced understanding of opinions and perspectives, ranging from negative to positive. This thoughtful approach ensures a comprehensive and in-depth examination of aspects of the study. To conduct data collection activities, the Research Ethics Committee (REC) letter of approval is required before collecting data to share the questionnaire. To conduct this study, ethics approval was obtained with reference no: 600-UiTMCTKD (PJI/RMU 5/2) JPN.

For the data analysis, data gathered were processed and analyzed using Statistical Package for Social Science (SPSS) version 27. Researchers have tested the reliability of the data by using Cronbach's Alpha on collected data from the pilot test. The pilot test was conducted with 30 respondents who agreed to answer the questions. As for Table 1, the result of the reliability test has been received as reliable variables. Besides, descriptive analysis, Pearson correlation analysis and multiple regression analysis will be used to test the relationship.

Table 1: Reliability Test

Variables	Cronbach's Alpha	Number Of Items	Number of Respondents
Food Quality	0.606	4	30
Food Presentation	0.724	4	30
Food Portion	0.650	4	30
Food Waste	0.899	12	30

4. Findings and Results

Data collection and sample characteristics

Statistical Package for the Social Sciences (SPSS) Version 27 was used for data analysis from the questionnaire. To reach a total of 417 people, we used an online platform that provided a Google Forms link for the respondents. There are a total of six parts to the survey, and before going on to the next part, we check if the responder is qualified to answer the screening question. The sections that follow provide a list of the independent and dependent variables that were utilized in this inquiry. The demographic summary of the respondents is presented in the table below.

Table 2: Demographic Characteristics

Variables	**Categories**	**Frequency**	**Percentage (%)**
	Male	193	46.3
Gender	Female	224	53.7
Age	18-28 Years Old	81	19.4
	29-39 Years Old	178	42.7
	40-50 Years Old	145	34.8
	51 Years and Above	13	3.1
Race	Malay	253	60.7
	Chinese	87	20.9
	Indian	77	18.5
Marital status	Single	144	34.5
	Married	257	61.6
	Divorced	8	1.9
	Widow	8	1.9
Level of Education	Primary	40	9.6
	Secondary	65	15.6
	Diploma	169	40.5
	Degree and above	143	34.3
	Below RM500	18	4.3
Income	RM500 - RM1000	18	4.3
	RM1001 - RM1500	75	18.0
	RM1501 - RM2000	141	33.8
	RM2001 - RM2500	91	21.8
	RM2501 and above	74	17.7

The researcher has utilized four weeks for the whole data collection process. A total of 417 responses have been received for the present study. Of the number of responses, 193 of them are male and the rest are 224 females. The frequency age group of the respondents was 18-28 years old, with 81%. 178 respondents were 29-39 years old, 34.8% of respondents were aged between 40-50 years old and the rest were 51 years old and above with 13 respondents. Among the respondents, 34% are single and the other 61.6% are married. 33.8% of respondents had an income range from RM1501 to RM2000, 21.8% were between RM2001 to RM2500, 17.7% of respondents had an income of RM2501 and above and the income level for the rest of the respondents was less than RM1500.

Descriptive Analysis

The descriptive analysis has been conducted to look at the means and standard deviations of each item in each category of food quality, presentation, portion, and waste, using a five-point Likert scale. If the mean score is less than 2.99, then respondents strongly disagree with the statement related to the variables. On the other hand, if the mean score is between 3.00 and 3.99, then respondents are partially or fully in agreement with the statement. In conclusion, statements regarding the three factors in the questionnaire are strongly agreed upon by respondents when the mean score is 4.00 to 5. Notice: On a Likert scale, 1 indicates Strongly Disagree, 2 indicates Disagree, 3 indicates Neutral, 4 indicates Agree, and 5 indicates Strongly Agree.

Descriptive Analysis of Independent Variable 1 (Food quality)

Table 3 presents the results of the descriptive analysis that was performed on the first independent variable. The first independent variable in this study is food quality. According to the table below, the mean score distribution for the items under the food quality ranges from 2.69 to 3.79, indicating that the respondents are more inclined to agree or strongly agree with the statements presented in the food quality section of the questionnaire. As a result, the findings on the food quality are reported in Table 3 in this section.

Table 3: Mean Score for Independent Variable 1 (Food quality).

No	Survey Item	N	Mean	Std. Dev
1.	I am sure the hospital has provided healthy food options for hospitalized patients.	417	3.53	0.846
2	The meals that have been served are delicious with various flavours.	417	2.69	1.608
3.	The temperature of the food served is appropriate and consistent.	417	3.03	1.439
4.	I think the frequency of menu rotations keeps the dining experience interesting.	417	3.79	1.070

Note: Likert Scale (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

Referring to Table 3, the survey results underscore a high level of awareness and consensus among participants regarding various aspects of food quality. The highest mean score observed for the statement is number 4 (M=3.79, SD=1.070) indicating that respondents agreed that they think the frequency of menu rotations keeps the dining experience interesting. The second-highest mean score was associated with the statement that the hospital has provided healthy food options for hospitalized patients, which is number 1 (Mean = 3.53, Std. Deviation = 0.846). This suggests a strong agreement among participants with a relatively low level of variability in responses. Conversely, the lowest mean score pertained to meals that have been served and are delicious with various flavours, which is number 2 (Mean = 2.69, Std. Deviation = 1.608). The second-lowest score observed for the statement is number 3 (Mean = 3.03, Std. Deviation = 1.439) indicating that respondents agreed that the temperature of the food served is appropriate and consistent.

Descriptive Analysis of Independent Variable 2 (Food presentation)

Table 4 presents the findings of the descriptive analysis conducted on the second independent variable. Food presentation serves as the second independent variable for the study. Based on the table provided, the average scores for the questions related to respondents' attitudes range from 3.25 to 3.79. This indicates that, on average, respondents' opinions about food presentation vary from strongly disapprove to highly agree. The items in this range exhibit varying food presentations, indicating a variance among respondents in terms of the features addressed by the food presentation variable in the research instrument.

Table 4: Mean Score for Independent Variable 2 (Food presentation)

No	Survey Item	N	Mean	Std. Dev
1.	I feel that the appearance of the food is appealing and appetizing.	417	3.25	1.231
2	The cleanliness of the serving area positively impacts the food presentation.	417	3.79	1.071
3.	The presentation of the food makes me feel confident about its freshness.	417	3.43	0.993
4.	I am satisfied with the visual presentation of the prepared food.	417	3.71	1.207

Note: Likert Scale (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

Based on Table 4, the analysis of food presentation of food waste reveals different patterns. The participants strongly agreed that the cleanliness of the serving area positively impacts the food presentation, which was number 2 with a high mean score of 3.79 and a standard deviation of 1.071, indicating strong agreement on this aspect of cleanliness. The second-highest mean score was associated with satisfaction towards the visual presentation of the prepared food, which is number 4 (Mean = 3.71, Std. Deviation = 1.207). The lowest mean score for this category was that the participants felt that the appearance of the food was appealing and appetizing (M3.25, SD=1.231). The second-lowest score observed for the statement is number 3 (Mean = 3.43, Std. Deviation = 0.993) indicating that respondents agreed that the presentation of the food makes them feel confident about its freshness. These findings highlight areas where targeted educational interventions can address specific food presentation to reduce overall food waste in public hospitals.

Descriptive Analysis of Independent Variable 3 (Food Portion)

Table 5 shows the average score distribution runs from 2.75 to 3.76, showing that the respondents' food portion varies across the full Likert scale, from strongly disagree to strongly agree.

Table 5: Mean Score for Independent Variable 3 (Food Portion)

No	Survey Item	N	Mean	Std. Dev
1.	I find that the portion sizes of main meals in public hospitals are appropriate.	417	3.72	0.939
2	I find that the portion sizes of meals in public hospitals are sufficient for individuals with specific dietary requirements (e.g., diabetic, gluten-free).	417	3.52	0.976
3.	I think the portion sizes of meals in public hospitals are comparable to those served in other healthcare facilities.	417	2.75	1.770
4.	I am sure food portion sizes in public hospitals promote overall health and well-being.	417	3.76	1.134

Note: Likert Scale (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

In the evaluation of participants' food portions related to food waste (Table 5), several prominent trends emerged, highlighting commendable adherence to crucial food portions. The highest mean score was associated with the statement "I am sure food portion sizes in public hospitals promote overall health and well-being," which is number 4 (M=3.76, SD=1.134). This robust consensus among participants indicates a strong commitment to meticulous food portions to reduce food waste. The second-highest mean score linked to the statement is number 1: "I find that the portion sizes of main meals in public hospitals are appropriate"(M=3.72, SD=0.939). This reflects that HRPZ II generally follows established nutritional guidelines to ensure balanced meals and meet the nutritional needs of patients. Conversely, the lowest mean score was number 3 which is associated with the statement ", I think the portion sizes of meals in public hospitals are comparable to those served in other healthcare facilities" (M=2.75, SD=1.770) and the second lowest mean score was number 2 with the statement "I find that the portion sizes of meals in public hospitals are sufficient for individuals with specific dietary requirements (e.g., diabetic, gluten-free)"(M=3.52, SD=0.976). These findings offer valuable insight into aspects of the food portion. Targeted interventions can leverage this information to improve understanding and contribute to overall improvements in reducing food waste in HRPZ II.

Descriptive Analysis of Dependent Variable (Food waste)

The dependent variable of this study is food waste in HRPZ II. As we can see from Table 6, the mean score ranges from 3.62 to 4.32, this shows that almost all the respondents agree with the food waste in the public hospital Raja Perempuan Zainab II.

Table 6: Mean Score for Independent Variable 3 (Food waste)

No	Survey Item	N	Mean	Std. Dev
1.	The problem of food waste occurs in public hospitals because there is no menu option offered to patients	417	4.21	1.173
2	I found the food served in public hospitals lacked seasoning and this was a factor in food wastage.	417	3.96	1.254
3.	The temperature of the food served in public hospitals is not suitable and can cause food waste problems among patients.	417	4.24	1.158
4.	I found that the menu provided by the public hospital is the same and waste occurs due to the lack of variety in the menu.	417	4.06	1.179
5.	I am not interested in eating food served in public hospitals because the food served is less appealing in terms of food appearance.	417	4.29	1.223
6.	A less clean serving area can make me not feel like eating and it can cause waste.	417	4.32	1.235
7.	Unappealing food presentation can affect my confidence to eat, leading to waste.	417	4.17	1.160
8.	A good visual presentation of food can attract my attention and waste problems can be reduced.	417	4.20	1.226
9.	The appropriate size of food is important to serve patients in public hospitals to ensure that food waste does not occur.	417	4.18	1.166
10.	The right size of food servings should be provided to patients who need a certain diet to ensure that the patient gets enough food without having to waste it.	417	4.29	1.286
11.	The size of food servings in public hospitals is not satisfactory compared to other healthcare centers, which will lead to wastage.	417	3.62	1.017
12.	I support the size of the food portions in the hospital, so that it guarantees the health and well-being of the patients and so that hospital food does not o to waste.	417	3.79	1.092

Note: Likert Scale (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

In the assessment of food waste (Table 6), there is a consistent pattern of high mean scores, indicating strong compliance with food waste. The highest mean score observed for the statement is number 6, which is "Unclean serving areas can make me not want to eat and can cause waste," with an impressive mean score of 4.32 and the second highest standard deviation of 1.235. Dirty or unkempt eating areas can be unattractive and unappetizing, causing patients to lose the desire to eat. Similarly, the second highest mean score observed for the statement is number 10 which is “The right size of food servings should be provided to patients who need a certain diet to ensure that the patient gets enough food without having to waste it." (M=4.29, SD=1.286). This shows a strong agreement, and consistency has proven the cause of food waste disposal in public hospitals. On the other hand, the lowest mean score is associated with the statement "The size of food servings in public hospitals is not satisfactory compared to other health care centers which will cause waste." which is the number 11 (Mean = 3.62, SD=1.017), reflecting that the food in the public hospital is satisfactory.

Pearson Correlation

The strength and direction of the linear relationship between two variables are analyzed through Pearson Correlation. Table 7 shows the relationship between food quality, food presentation, food portion and food waste behaviours among patients in public hospitals. There are hypotheses to be analysed by using the Pearson Correlation test as below:

H_1: There is a significant relationship between food quality and food waste behaviours among patients in public hospitals.
H_2: There is a significant relationship between food preparation and food waste behaviour among patients in public hospitals.
H_3: There is a significant relationship between food portions and food waste behaviour among patients in public hospitals.

The features of a dataset can be characterized by descriptive statistics like Pearson's correlation coefficient. It details the strength and direction of a linear relationship between two numerical variables. The following Pearson Correlation table shows that food quality and food waste are strongly correlated (r = 0.535). Furthermore, there is a robust positive association between food presentation and food waste, with a correlation coefficient of (r = 0.660). Finally, food portions and food waste in HRPZ II are strongly correlated (r = 0.602). A positive correlation is displayed for all potential associations. In this case, the presentation of the food had the strongest association.

Table 7: Pearson Correlation Test

		Food quality	Food presentation	Food portion	Food waste
Food quality	Pearson Correlation	1	0.784**	0.798**	0.535**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	417	417	417	417
Food presentation	Pearson Correlation	0.784**	1	0.830**	0.660**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	417	417	417	417
Food portion	Pearson Correlation	0.798**	0.830**	1	0.602**
	Sig. (2-tailed)	<.001	<.001		<0.001
	N	417	417	417	417
Food waste	Pearson Correlation	0.535**	0.660**	0.602**	1
	Sig. (2-tailed)	<.001	<0.001	<0.001	
	N	417	417	417	417

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

Multiple Regression Analysis

In this study, the researchers employed multiple regression analysis to assess the hypothesis of a correlation between independent variables (food waste, food presentation, and food portion) and a dependent variable (food waste in public hospitals). The sample size of 417 for this study is adequate for doing multiple linear regression analysis. The results of the multiple regression are summarized in the table below.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	. 667[a]	.445	.441	.73624

Predictors: (Constant), food quality, food presentation and food portion
Dependent Variable: Food waste
According to the data in Table 8, the value of R is 0.667, indicating a significant correlation between the

dependent variable and independent factors. Furthermore, as indicated, the coefficient of determination (R2) is 0.445, indicating that our independent factors account for 44.5% of the variance in our dependent variable, food waste in public hospitals. In addition, researchers can determine the significance of the data by analysing the ANOVA (Table 9). The ANOVA test yielded a value of F (3,413) = 110.243, with a p-value of <.001. This indicates that there are statistically significant variations in the means of quality, presentation, and portion among the different groups. The p-value of less than .001 strongly rejects the null hypothesis. At a generally used significance level of 0.05, the results indicate that the null hypothesis can be rejected, providing evidence for the existence of substantial variations in quality, presentation, and portion sizes among the groups. These findings emphasize the significance of quality, presentation, and portion size in differentiating across the groups. Additional post-hoc tests can be performed to detect certain disparities across groups and investigate the consequences of these discoveries.

Table 9: ANOVA

Model		Sum of Squares	df	F	Sig.
1	Regression	179.272	3	110.243	<.001[b]
	Residual	223.868	413		
	Total	403.149	416		

a. Dependent Variable: Food waste
b. Predictors: (Constant), food quality, food presentation and food portion

Table 10: The Effect of Factors That Influence Food Waste Behavior Among Hospitalized Patients in Hospital Raja Perempuan Zainab II

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.365	.157		8.706	<.001
	Food Quality Factor	-.027	.072	-.025	-.377	.706
	Food Presentation Factor	.594	.080	.524	7.422	<.001
	Food Portion Factor	.211	0.82	.187	2.568	.001

a. Dependent Variable: Food waste

This study used multivariate linear regression analysis to find out which characteristics could be the best predictors of the dependent variable. Table 10 shows that of the independent variables with the most significant unique contributions to this study, the presentation variable has the highest beta value at .524, followed by the portion variable at .187. With a beta value of -.025, quality, on the other hand, showed a lesser association.

Additionally, all factors contributed significantly to predicting the dependent variable, as their significance levels (sig.) were lower than typical standards. Specifically, food presentation and food portions have a positive impact, while food quality has a limited and negative one. Food waste in public hospitals is the dependent variable, and there are statistically significant relationships between independent components (food portion, food presentation, and food quality). Quality, Presentation, and Portion explain 44.5% of the variability in the dependent variable, according to the modified R^2 value of. .445. To comprehend and predict food waste in HRPZ II, a strong model highlights the relevance of these factors.

Discussion

Pearson Correlation analysis revealed a significant relationship between quality, presentation, portion and behaviour of food waste among patients in HRPZ II. There is a strong positive correlation (r = 0.535, p < 0.001) between food quality and food waste that supports the acceptance of H_1. Hospitals should source fresh, high-quality ingredients to prepare meals. This not only enhances the taste but also ensures the meals are visually appealing. Fresh ingredients retain the color, texture, and flavor of food better than processed or canned foods, making them more appetizing. Based on the mean score for each survey item in Table 3, it seems that HRPZ II generally have a good level of knowledge in food quality that is relevant to ensure patient satisfaction, as shown by the high mean score but attention may be needed in all areas, especially the palatability of food with various flavour. Food quality includes the total quality of food such as taste, freshness, and visual appeal (Akbara et al., 2021). This shows that when the quality of food increases, the food waste issue will decrease in public hospitals.

Next, a strong positive correlation ($r = 0.660$, $p < 0.001$) was identified between the presentation of real food and food waste confirming the reception of H_2. Food should be colourful and orderly, with attention to detail in the plating. Simple techniques such as adding decorations, arranging food neatly and using festive ingredients can make a meal more interesting. Overall, the mean score in Table 4 shows that the food presentation remains consistent, such as the appearance of the food, the clarity of the dish, the freshness of the food and the visual satisfaction of the presentation. According to Karan et al. (2023), there are two categories of food-serving systems,: centralized systems and bulk systems. Bulk systems have a lower percentage of food waste than centralized systems because they can keep freshly made food at the right temperature and keep the food warm, which will increase the patient's appetite. This finding underlines the importance of food presentation to overcome or reduce food waste in public hospitals, which is especially important to avoid environmental pollution.

Ultimately, a second high strong positive correlation ($r = 0.602$, $p < 0.001$) was identified between the portion of real food and food waste confirming the acceptance of H_3. The portion of food served in HRPZ II should meet the nutritional needs of hospitalized patients. Each patient has unique nutritional needs based on their medical condition, age, weight and recovery goals. Dietitians and nutritionists play an important role in designing meal plans that meet all the needs. Ensuring that food portions are adequate and balanced in terms of macronutrients (proteins, carbohydrates, and fats) and micronutrients (vitamins and minerals) is important for patient recovery. Overall, the mean score in Table 5 suggests that the food portion shows a good performance, but attention may be needed to ensure portion sizes are comparable to those in private healthcare facilities. According to Norshariza et al. (2019), patients may choose their menu options, but nutritionists are responsible for tailoring recommendations to meet individual needs. For example, patients with difficulty swallowing may require soft, liquid, or blended diets. These findings emphasize the importance of food portioning and presentation in minimizing food waste in public hospitals, as excessive waste contributes to significant financial losses. Properly designed meal plans and visually appealing presentations can help address this issue effectively.

This study utilized multiple regression analysis to examine the relationships between independent variables (food quality, food presentation, and food portion) and the dependent variable (food waste behaviour) among hospitalized patients at Hospital Raja Perempuan Zainab II. Hypotheses were formulated to determine the significance of these relationships, and the analysis yielded noteworthy results. With an R-value of 0.667, the findings indicate a strong relationship between the independent variables and the dependent variable. The R^2 value of 0.445 suggests that food quality, food presentation, and food portion collectively explain 44.5% of the variability in food waste behaviour among HRPZ II hospitalized patients. Additionally, a p-value of less than 0.001 in the ANOVA test confirms statistically significant differences between group means for quality, presentation, and portion, further validating the importance of these factors.

The coefficients in Table 10 provide further insights into the individual contributions of each independent variable. Notably, food presentation and food portion exhibit positive and significant effects, with beta values of 0.524 and 0.187, respectively, indicating that improvements in food presentation and adherence to portion sizes positively influence food waste behaviour among hospitalized patients. In contrast, food quality showed a weaker and negative correlation (beta = -0.025), suggesting a less significant role in predicting food waste behaviour in this context.

The overall model underscores the critical role of food presentation and portioning in predicting and reducing food waste behaviour among HRPZ II hospitalized patients. These findings have significant implications for developing targeted interventions and training programs, including leveraging social media to raise awareness among patients and the broader community about minimizing food waste.

5. Conclusion and Recommendations

In conclusion, food quality, presentation, and portion sizes are crucial factors that hospitals can address to enhance sustainability by minimizing the environmental impact associated with food production and the disposal of uneaten waste. Although food presentation has generally improved, there remains a gap in certain aspects, such as ensuring clear serving spaces and appealing visual presentation. Providing high-quality, visually appealing, and appropriately portioned meals can significantly reduce food waste, optimize resource use, and enhance patient satisfaction. Hospitals should continuously evaluate and refine their food service practices by incorporating patient feedback and adopting best practices in food preparation and presentation. The findings underscore the importance of implementing targeted training programs to standardize food quality and portioning. However, the study faced several limitations. First, the sample size: limited resources can make it challenging to collect a sufficiently large and representative sample of hospitalized patients. Collaborating with multiple hospitals could help gather a more diverse and robust sample. Second, reliance on self-reporting: patients may not always accurately report their food waste behaviours. Observational methods, where researchers or trained staff monitor and record food waste, could address this issue. This study is critical in ensuring patient satisfaction while tackling the pervasive issue of food waste disposal. It also opens avenues for further exploration of the long-term impact of educational initiatives and cultural influences on food preparation practices. Overall, the findings provide valuable insights for reducing food waste at Hospital Raja Perempuan Zainab II and promoting sustainable food service practices.

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Factors Influencing Patients' Satisfaction with Meals Served at Hospitals in Malaysia

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Abstract: Hospitals play a vital role in restoring patients' health, and the quality of food served can significantly contribute to the recovery process. The food's taste, appearance, and freshness are key factors that can enhance patient satisfaction and, in turn, build trust, improving the hospital's overall performance. Given the many meals served to patients, hospital food service is a critical component of hospital management, with the potential for growth and improvement in service delivery. This research will examine the factors influencing food quality, including taste, appearance, and freshness, and explore how these elements impact patient satisfaction. The findings aim to help hospitals identify areas for improvement and enhance their food service operations.

Keywords: *Taste, appearance, freshness, satisfaction, hospital, patient meal*

1. Introduction

The quality of food served in hospitals is a critical factor influencing patients' overall satisfaction and recovery. In healthcare settings, particularly in hospitals, food is not merely a necessity but a vital component of patient care that can affect recovery times, patient morale, and the overall hospital experience. While medical treatment and attention are healthcare facilities' primary focus, food service's role in patient satisfaction cannot be overlooked. In Malaysia, where healthcare services are rapidly evolving to meet the needs of a diverse and growing population, hospitals must also adapt their food service strategies to enhance the patient experience.

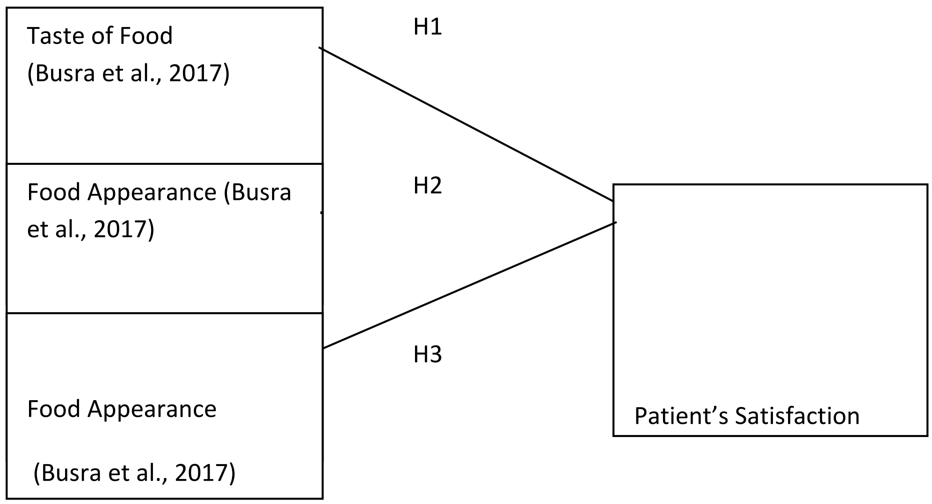
This research explores the key elements contributing to food quality in patients' meals in Malaysian hospitals, focusing specifically on how taste, appearance, and freshness influence patients' satisfaction. The study seeks to identify the components of food quality that are most significant to patients to provide actionable insights for hospital management to improve food services. Several studies have shown that food quality in healthcare settings impacts patient satisfaction and willingness to trust and recommend the hospital. Furthermore, there is increasing recognition that food, as part of the healing process, can directly affect a patient's psychological and physical recovery. As the demand for better food service increases in Malaysian hospitals, it is crucial to understand the relationship between the various dimensions of food quality—taste, appearance, and freshness—and their influence on patients' perceptions and overall satisfaction.

Previous research has demonstrated that food quality in healthcare settings can lead to improved patient outcomes, higher levels of satisfaction, and potentially more favorable hospital reviews. However, most Malaysian public hospitals do not provide menus, leaving patients unaware of their repetitive meals (Aminuddin et al., 2018). Foodservice is crucial for patient well-being, yet 40% experience disease-related malnutrition due to inadequate care. This long-standing issue has been emphasized by Wilandh et al. (2024). By investigating these factors in the Malaysian context, this study hopes to contribute to developing more patient-centered food service practices in hospitals, ultimately improving patient care and operational performance. The following are the research study's hypotheses:
H1: The taste of food had a significant relationship with patients' satisfaction
H2: Food appearance had a significant relationship with patients' satisfaction
H3: The freshness of food had a significant relationship with patients' satisfaction

The framework established by Busra et al. (2017) includes three independent variables: taste, appearance, and freshness of food. All three play a significant role in patient satisfaction. According to Lai and Gemming (2021), patient satisfaction with a food service system is influenced by patients' perceptions of the food, the quality of service, and the overall environment.

Figure 1: Conceptual Framework for this Study

Independent Variables **Dependent Variable**



The taste of food, its appearance and freshness are equally important factors influencing patient satisfaction in hospitals. The visual appeal of a meal can significantly impact a patient's willingness to consume it, especially when dealing with illness or discomfort. A well-presented meal stimulates the appetite and creates a sense of care and attention from the hospital staff, which can positively affect the patient's overall experience. Research has shown that when meals are visually appealing, with vibrant colors and an organized presentation, patients are more likely to feel satisfied and confident in the food quality.

Furthermore, the freshness of food plays a critical role in ensuring that patients receive nutritious and safe meals, which directly impacts their recovery. Fresh ingredients contribute to better taste, higher nutritional value, and a more pleasant eating experience. When patients receive meals made from fresh, high-quality ingredients, they are more likely to perceive the food as enjoyable and beneficial to their health. Food taste, appearance, and freshness create a holistic meal experience that can significantly enhance patient satisfaction and contribute to better recovery outcomes in hospital settings.2. Literature Review.

2. Food as a significant contribution

The chord tympani, a branch of the seventh cranial nerve, transmits taste perception to the tongue's anterior two-thirds. The perikarya of these pseudo-unipolar afferent neurons are found in the ganglion geniculi. The glossopharyngeal nerve, or ninth cranial nerve, is responsible for taste perception in the distal portion of the tongue (Speth et al., 2023). The sensation we call taste is a combination of smell and taste. Taste is the technical name for combining sensory sensations obtained while consuming food and beverages. "Taste" refers to the sensation caused by stimulating taste receptor cells on the tongue's surface. This sense of taste, like smell, is based on chemical interactions between inputs and receptors during learning. Spices must dissolve in saliva to interact with taste receptors. Saliva then concentrates the dissolved chemicals near clusters of receptor cells known as taste buds. Without saliva, the taste buds' performance rapidly deteriorates. Chemical taste receptors are buried in "bumps" (known as papillae) on the tongue's surface (Younes, 2024).

Taste is one of the five basic senses that allow people to discriminate between different substances' odors. People will be able to simultaneously integrate their senses to avoid ingesting potentially harmful chemicals, facilitate oral ingestion, and evaluate the nutritional content of food. Most people know four main flavors: sour, bitter, salty, and sweet. Nonetheless, other researchers have included different flavors, including umami (monosodium glutamate [MSG]), disodium guanylate (disodium inosinate), metallic (iron salts), and chalky (calcium salts) (Sa'uadi et al., 2023).

The food appearance of the patient

Visual information commonly influences consumers' purchasing decisions in their daily lives. It is widely understood that exterior food features, such as product packaging design, can influence human preferences and decisions via expectation processing. Packaging significantly impacts customers' sensory experiences of food by providing visual information, which in turn influences their consumption and eating behavior. Color not only conveys sensory information in the visual domain, but it also influences consumer expectations and assessments of items and brands. Aside from the impact of color in the visual modality, the sensation transmission phenomenon has proven visual appearance's influence on flavor perception. The concept of color-flavor association, a common cross-modal phenomenon (Jiang et al., 2024), refers to people's tendency to associate various colors with specific flavors based on previous experiences or expectations. For example, a red-colored drink could be related to a sweet or strawberry flavor. Color-flavor associations can help consumers retrieve information and even change their impression of the actual dish. Given these considerations, we may influence consumers' food preferences by combining color and other cognitive components (Jiang et al., 2024).

The freshness of the food for the patient

Freshness is a major issue in the fish and meat industries, and multisensory analysis is an efficient technique for shelf-life and post-mortem duration monitoring (Lvova, 2016). According to Roisin (2023), although date codes can provide useful information regarding food freshness, they are not necessarily trustworthy indicators of food safety or quality. Regardless of the date code, factors such as storage conditions, handling, and processing can all affect the freshness and safety of food goods. Besides, smell and taste are frequently effective predictors of food freshness, particularly for perishable goods such as meat, fish, and fruit. While scent and taste can be strong indicators of freshness, when analyzing the safety and quality of food products, it is always vital to employ sound judgment and common sense. Some foods may not indicate deterioration, yet they can still cause foodborne illness if infected with hazardous bacteria or other pathogens. Proper food handling techniques generally include rapidly refrigerating perishable items, heating foods to their prescribed internal temperature, and rejecting any food that seems or smells rotten.

Fresh food is characterized by perishability, temperature sensitivity, unsustainable usage of natural resources, and seasonality (Liao et al., 2023). Smart food labels (SFL), which provide people with knowledge of the freshness of the food they buy, can swap out the concept of "shelf life" for food packaging by adopting a dynamic tagging system (Lv et al., 2024). The freshness of food products influences consumer buying decisions. Consumers are hesitant to acquire food items that do not appear fresh. Fresh green things, bakery, and culinary products are typical instances of deteriorating products on the market (Iqbal et al., 2024).

Patient satisfaction in the hospitality industry

Due to the nature of its business, the hospitality industry has served as a model for pioneering outstanding service standards emulated by other industries in the service economy. The goal is to teach team members how to make the best positive impression with guests, exceed expectations, and achieve guest loyalty, whether it's Disney's strategy to be "assertively friendly," the Ritz Carlton Hotel's "zero-defect policies," Danny Meyer's "hospitality quotient," or an unnamed restaurant becoming a neighborhood gathering place. Good meals, attentive staff, and pleasant environments contribute significantly to hospital demand (Poorani et al., 2023).

Nurses are well-known for putting in a lot of effort to keep mastectomy patients comfortable by providing physical and psychological support. It should be highlighted that when providing psychological assistance, nurses should consider their patients' personality features as well as their current psychological state. Nurses, for example, may use trust-based communication to reduce patients' fear or to increase their understanding of surgery and sickness during the perioperative period. Other nurse therapies that may benefit patients during the perioperative phase include promoting physical and mental relaxation, maintaining patient privacy, and providing additional support to family members (Sağdıç et al., 2024).

Moreover, the measure of medical service quality was patient satisfaction, which was defined as the decision made by patients and their families after contrasting their emotions throughout the medical service with their pre-existing expectations (Fang et al., 2019).

3. Methodology

The research adopts a quantitative approach using simple random sampling to include 382 patients from both private and government hospitals. This study uses a structured questionnaire divided into five sections. Section A collects demographic information, while Sections B, C, and D assess the independent variables: taste of food, food appearance, and food freshness, respectively. Section E uses a Likert scale (1-5) to measure the dependent variable, patients' satisfaction. The data will be analyzed using statistical methods, including pilot tests, reliability analysis, normality testing, descriptive statistics, and multiple linear regressions, utilizing IBM SPSS Statistics.

4. Findings

Table 1: Cronbach Alpha of All Variables

Variables	Cronbach's Alpha	Number of Items	Number of Respondents
Taste	0.905	3	382
Appearance	0.857	5	382
Freshness	0.779	5	382
Satisfaction	0.708	4	382

Table 1 displays the Cronbach's Alpha values for all variables, including the independent variables: taste (0.905), appearance (0.857), freshness (0.779), and the dependent variable: satisfaction (0.708). All variables in the study demonstrate Cronbach's Alpha values exceeding 0.7, signifying that the data is reliable for the analysis. Scores above 0.8 are deemed good, 0.7 is acceptable, and values below 0.6 are considered questionable. The significance of these Cronbach's Alpha values is that they exceed the commonly accepted threshold of 0.7, suggesting that the data collected is reliable for further analysis. To elaborate, scores over 0.8 are categorized as demonstrating good reliability, while those at or above 0.7 are deemed acceptable. Conversely, values below 0.6 indicate questionable reliability. Overall, the results indicate that the study's variables are well-measured and can provide valid insights into the relationship being investigated.

Table 2: Demographic Respondent Profile

Characteristics	Participants	Frequency	Percentage
Age	31-50	125	32.7
	50 and above	67	17.5
	Below 30	190	49.7
Gender	Female	223	58.4
	Male	159	41.6
Education			
	No formal education	38	9.9
	Primary	85	22.3
	Secondary	100	26.2
	Tertiary	159	41.6
Length of stay (days)	1-2	111	29.1
	3-7	123	32.3
	8-16	94	24.6
	More than 16	54	14.1
Marital status	Married	130	34.0
	Not married	252	66.0

As shown in Table 2, demographic data show that there are 382 total respondents with three age groups: below 30 years, 31-50 years and 50 years and above. 190 respondents, representing 49.7% of the sample, are below 30 years old, while 125 respondents, accounting for 33.9%, are 31-50. The lower number of respondents, aged above 50, accounted for just 67 respondents, representing 17.5% of the sample. Other than that, data shows that there are 382 total respondents, with 223 (58.4%) female and 159 (41.6%) male participants. This indicates that most respondents to the questionnaire are female. Furthermore, the data also collects the background of the respondent's level of education.

The highest number of the respondents' educational level is from the *tertiary level,* with 159 (41.6%) respondents. This is followed by the *secondary level*, with 100 (26.2%) respondents. Respondents who completed primary school are 85 (22.3%) people. Meanwhile, having no formal education gains 38 respondents (9.9%). This indicates that most of the local respondents are *from tertiary* holders. Based on the Length of stay, 3-7 days, representing 123 (32.2%) is the highest number of respondents, followed by 1-2 days with 111 (29.1) respondents, 8-16 days with 94 (24.6%) respondents and the lowest is more than 16 days 54 (14.1) respondents. Additionally, demographic data shows that unmarried respondents make up the highest number at 252 (66%); married respondents are the lowest at 130 (34%). This indicates that most of the participants in this data are not married respondents.

Table 3: Descriptive Analysis of Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Taste	382	1.00	3.00	1.9747	.62485
Appearance	382	1.00	2.60	1.8832	.34669
Freshness	382	1.00	2.60	1.9230	.50721
Satisfaction	382	1.00	3.00	1.9555	.60940
Valid N (listwise)	382				

Table 3 presents all the variables derived from the descriptive analysis, including each variable's mean and standard deviation. The average mean scores for the following variables are as follows: taste (M = 1.9747), appearance (M = 1.8832), freshness (M = 1.9230), and satisfaction (M = 1.9555). Please note that the Likert scale used is as follows: (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree).

Table 4: Correlation Analysis

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.252	.109		-2.309	.021
	Taste	.113	.036	.115	3.171	.002
	Appearance	.291	.070	.166	4.163	.000
	Freshness	.747	.047	.622	15.833	.000

a. Dependent Variable: Satisfaction

Table 4.4 shows a correlation analysis, and the appearance beta value (β) is 0.291; $p<0.05$. Beta = 0.747; $p<0.05$ is the freshness beta value. According to the analysis, these independent factors showed significant relationships with the dependent variables. Because freshness has the most extensive beta value compared to other independent variables, it is the most significant component with a strong link with dependent variables. Appearance is the second crucial element, while taste is the third. Taste has the lowest relationship and shows a bad relationship with patients' satisfaction. H1: The taste of food had a significant influence on patients' satisfaction.

The hypothesis indicates a positive correlation between the taste of food and patients' satisfaction. Based on Figure 15, the relationship between food taste and patients' satisfaction is analyzed as t = 3.171 and p = 0.002; $p<0.05$. In conclusion, this states that the taste of food will increase patients' satisfaction. It is indicated that H2: Food appearance had a significant influence on patients' satisfaction.

The hypothesis indicates a positive correlation between food appearance and patients' satisfaction. Based on Figure 15, the relationship between food appearance and patients' satisfaction is analyzed as t = 4.163 and p = 0.000; $p<0.05$. In conclusion, this stated that food appearance will increase patients' satisfaction and shows that H3: The freshness of the food had a significant influence on patients' satisfaction.

The hypothesis indicates a positive correlation between the freshness of the food and patients' satisfaction. Based on Figure 15, the relationship between the freshness of the food and patients' satisfaction is analyzed as t = 15.833 and p = 0.000; $p<0.05$. In conclusion, this states that the freshness of the food will increase patients' satisfaction.

Discussion

The study attempted to discover factors affecting patients' satisfaction with meals provided in Malaysian hospitals, emphasizing taste, appearance, and freshness of food. This has been supported by Lee & Mo (2019), who said that meal satisfaction was high when food options were available and people were served high-quality cuisine that smelled and tasted excellent or was personalized. The study found strong positive correlations between the taste of food, food appearance and the freshness of the food towards patient satisfaction. This has been supported by Frost & Baldwin (2021), who said that good nutrition is essential to patient care.

The meal's freshness appeared as the most influential aspect, followed by its appearance and taste. This has been supported by Roisin (2023), who said that although taste and scent can be robust markers of freshness, it is always important to use common sense and good judgment when evaluating the safety and quality of food products. 65% (248) of the 382 respondents are satisfied with the freshness of the food. These findings are consistent with earlier research, emphasizing the relevance of sensory qualities in food serving within healthcare settings. This has been supported by Osman et al. (2021), who said that when the patient is satisfied, the food will be fully eaten, which can improve the nutrients in the patient's body. The positive correlation between food quality and patient satisfaction emphasizes the importance of hospital food services in improving patient recovery and overall experience. 5. Conclusion and Recommendations for Future Research

In conclusion, the study found that improving hospital meals' taste, appearance, and freshness can considerably increase patient satisfaction. The findings indicate that hospital administrators should prioritize food quality characteristics to improve patient outcomes and satisfaction. Focusing on these key factors allows hospitals to provide a more desirable patient experience, which is critical for patient recovery and faith in healthcare services. The study's findings are helpful for hospital food service management and emphasize the significance of ongoing improvement in food quality standards. Furthermore, findings have significant implications for hospital food service management. Administrators can increase patient satisfaction and wellness outcomes by prioritizing improvements in the taste, appearance, and freshness of hospital meals. The study also concludes that investing in food quality is an essential component of patient-centered treatment. For policymakers, the findings emphasize the importance of allocating adequate resources to hospital food services to maintain good food quality standards. Furthermore, the study establishes a framework for future research to investigate additional characteristics that may influence patient satisfaction with hospital meals, thus contributing to the healthcare service quality improvement field.

In addition, this study has significant limitations. First, the sample size was confined to a few Malaysian hospitals, which may not reflect the entire country. Second, the study used a cross-sectional design, which limits the capacity to demonstrate causality between the variables evaluated and patient satisfaction. Furthermore, the study relied on self-reported data, which may be prone to response bias. As a suggestion for future studies, we could overcome these limitations by using a bigger and more diversified sample size, longitudinal designs, and objective food quality measurements.

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Halal Practices vs Food Heritage: A Case Study of *Keropok Lekor* Operators in Terengganu, Malaysia

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Abstract: As global demand for halal food continues to grow, Terengganu's food heritage must navigate the modern requirement for halal certification, especially for products, such as *Keropok Lekor*, which are exported beyond local markets. Hence, this study aims to examine the sustainability of halal practices in the context of food heritage, specifically focusing on *Keropok Lekor* operators in Terengganu, Malaysia. While existing literature has primarily addressed halal certification and supply chain management, there is limited exploration of how traditional foods like *Keropok Lekor* fit within the broader halal framework and cultural heritage. Therefore, a semi-structured interview was conducted with two *Keropok Lekor* operators in Terengganu. Hence, the interview process has been recorded, and then the recording has been transcribed using the NVIVO software. The theme has then been identified throughout the transcript. The themes used to analyze the transcript have been food heritage, halal practices, and challenges. By exploring *Keropok Lekor* as food heritage, investigating the halal practices among the operators, and understanding the challenges they face in maintaining these practices, the study provides insights into the intersection of cultural preservation and halal compliance. With the increasing global demand for halal-certified products, it is crucial to explore how traditional food producers navigate the delicate balance between heritage and halal standards. This study contributes to the growing body of knowledge about the sustainability of halal practices in the food industry.

Keywords: *Keropok Lekor, Food Heritage, Halal Practices, Sustainability, Terengganu*

1. Introduction

Keropok Lekor is a renowned traditional Malaysian dish, commonly available in hawker stalls, night markets, canteens, and restaurants, and is regarded as local heritage and a tourism emblem for the State of Terengganu, Malaysia. The dough is created by combining minced fish flesh with sago starch, ice, salt, and monosodium glutamate, and then shaped into a sausage or cylinder form and boiled before it is eaten. *Keropok Lekor* is predominantly manufactured by small- to medium-sized firms (SMEs) and serves as a principal economic activity for local communities, while also being recognized as a tourist attraction. *Keropok Lekor* is an easily perishable product that may become organoleptically undesirable after being maintained at room temperature for more than a day, so even with the great demand throughout Malaysia, the distribution procedure can be difficult (Tang & Tan, 2014).

Traditional food practices in Terengganu are more than just a means of sustenance, as they are intertwined with the community's social fabric and collective identity. In particular, *Keropok Lekor* has become a key element in the state's food tourism, contributing significantly to local economies by attracting visitors seeking authentic culinary experiences (Shariff et al., 2023). As a traditional food, *Keropok Lekor* plays a vital role in preserving regional knowledge and food craftsmanship, with many producers emphasizing their heritage in their marketing and production processes (Chew et al., 2022). However, as global demand for halal food continues to grow, Terengganu's food heritage must navigate the modern requirement for halal certification, especially for products like *Keropok Lekor* that are exported beyond local markets. While the preservation of food heritage remains a priority, halal certification has become essential to meet religious dietary requirements and cater to the Muslim consumer base (Hashim et al., 2022). Nonetheless, this evolving landscape has presented both challenges and opportunities for local food producers, as they balance the preservation of traditional methods with the need for halal compliance in a globalized market. As Muslim travellers increasingly seek authentic culinary experiences that align with their dietary requirements, the prominence of *Keropok Lekor* in Terengganu's food scene has exemplified how traditional foods can attract gastronomy tourism (Saffinee et al., 2024). Research has highlighted that factors like halal awareness, subjective norms, Islamic identity, and food quality significantly influence Muslim tourists' decisions, with halal food enhancing satisfaction and driving repeat visits (Albattat & Norhidayah, 2022). Countries like Malaysia have successfully integrated halal gastronomy into their tourism strategies, showcasing local halal cuisines to attract both Muslim and non- Muslim tourists while boosting economic growth (Saffinee et al., 2024). The global demand for halal-certified food reflects a broader trend of food as a primary travel motivator, offering destination opportunities to innovate and cater to diverse dietary needs.

The research gap concerning halal practices and food heritage, particularly regarding *Keropok Lekor*, highlights the need for a more integrated approach that combines cultural significance with current halal standards. While existing literature has primarily addressed halal certification and supply chain management, there is limited exploration of how traditional foods like *Keropok Lekor* fit within the broader halal framework and cultural heritage. Studies have identified consumer perceptions of *Keropok Lekor* as a unique Malaysian snack, yet they have often overlooked its historical and cultural context about halal practices (Haleem et al., 2020; Omar et al., 2014; Omar et al., 2011). Thus, this gap suggests a potential area for interdisciplinary research that not only examines the halal compliance of *Keropok Lekor* but also emphasizes its role in preserving food heritage and promoting sustainable practices within the halal-food sector.

The sustainability of traditional food practices in the face of current certification systems has become an important area of research, particularly in Muslim-majority countries, where halal certification is a significant aspect of food production. In Malaysia, *Keropok Lekor*, a popular fish-based snack from Terengganu, stands as an iconic food heritage that is deeply embedded in the local culture. As the halal market grows, food operators in Terengganu must balance their cultural traditions with the need for halal compliance, which has implications for both local heritage and business sustainability. Hence, this study seeks to put its focus on understanding the sustainability of the halal practices among the *Keropok Lekor* operators in Terengganu, Malaysia, and the challenges they face in preserving both their food heritage and halal integrity.

2. Literature Review

Food Heritage as a Cultural Element: *Keropok Lekor* serves as an integral part of cultural identity representing historical practices, local traditions, and regional ingredients that shape a community's way of life. In Terengganu, *Keropok Lekor* is more than just a popular snack, as it is deeply rooted in the social fabric of the state, serving as a symbol of local culinary heritage (Ng et al., 2021). Food heritage contributes to the preservation of cultural practices, regional identity, and historical continuity (Blankenberg et al., 2020). As a traditional food, *Keropok Lekor* is prepared using techniques passed down through generations, such as the use of minced fish flesh, tapioca flour, and spices, which distinguish it from current mass-produced snacks. Apart from that, the preservation of food heritage involves more than just the methods of preparation, as it also encompasses the story behind the food, the relationship between producers and consumers, and its role in local economies (Siti et al., 2022). Research by Chew et al. (2022) has shown that traditional food products, such as *Keropok Lekor*, play a significant role in attracting tourists and preserving local traditions, which helps to sustain regional economic development. In other words, the sustainability of food heritage is vital for both cultural preservation and the economic viability of local food producers (Shariff et al., 2023).

Halal Practices in Food Production*:* Halal food practices are essential in ensuring that food products meet the dietary requirements of Muslim consumers. In the context of Malaysia, halal certification serves as a guarantee that food products comply with Islamic law, which governs the sourcing, handling, and preparation of food (Abdullah et al., 2023). The halal certification process is crucial for food businesses, as it provides an assurance of quality and authenticity that appeals to the Muslim consumer market, both locally and internationally (Hashim et al., 2022). For *Keropok Lekor* operators in Terengganu, the need for halal compliance is critical, as it ensures that their products meet the religious and ethical requirements of Islam. Halal practices in food production include ensuring that ingredients are sourced from halal-certified suppliers, maintaining proper food-handling techniques to avoid contamination, and avoiding the use of prohibited substances, such as alcohol or non-halal meats (Ibrahim & Nordin, 2020). Fundamentally, the halal-certification process in Malaysia is overseen by the Department of Islamic Development Malaysia, better known as JAKIM, and the certification is often seen as a mark of quality assurance for both local and international markets (Loke et al., 2023).

Challenges in Sustaining Halal Practices: While maintaining halal practices is essential for compliance with religious and ethical guidelines, it also presents several challenges for food operators, particularly small-scale producers like those of *Keropok Lekor* operators in Terengganu. One of the key challenges is the cost associated with obtaining and maintaining halal certification. This is because the certification process typically involves fees, audits, and regular inspections, which can be burdensome for small-scale producers who may lack the resources to comply with these requirements (Hashim et al., 2022). Additionally, the sourcing of halal-certified ingredients can be more expensive compared to that of non-halal alternatives, which further increases the financial burden on food producers (Abdullah et al., 2023). Another significant challenge is the need to balance traditional food-production methods with the current requirements of halal certification. For example, the traditional preparation of *Keropok Lekor* may involve processes that are not easily aligned with the stringent requirements of halal certification, such as the use of traditional preservatives or certain cooking methods that may not be permissible under halal standards (Yahya et al., 2021). In some cases, the operators may face difficulties in ensuring that their production facilities meet the hygiene and cleanliness standards required for halal certification (Ibrahim & Nordin, 2020). The challenge of balancing food heritage with halal practices has been discussed in previous studies, with researchers emphasizing the importance of innovation and adaptation in preserving both heritage and compliance (Yahya et al., 2021). In the case of the *Keropok Lekor* operators in Terengganu, food-heritage preservation requires them to retain the traditional characteristics of the product, such as taste and texture, while adhering to halal-certification standards (Siti et al., 2022). Research by Chew et al. (2022) has suggested that one of the ways food producers can address this challenge is through collaborative partnerships with halal-certifying bodies and other stakeholders, such as suppliers and local communities. Such collaborations can help to ensure that the traditional methods are adapted in ways that align with the current halal standards without compromising the authenticity of the product. Moreover, embracing technology, such as current food-processing techniques or digital traceability systems, can also help small-scale producers to maintain halal compliance while improving the efficiency and sustainability of their operations (Loke et al., 2023).

3. Research Methodology

This study has employed a qualitative method to investigate the perspectives of the *Keropok Lekor* producers in Terengganu, Malaysia, regarding the sustainability of the halal practices. Semi-structured interviews have been conducted with two operators of the famous *Keropok Lekor* businesses in Terengganu. These two operators have been chosen based on their involvement in the production and sales of *Keropok Lekor* for more than ten years. The reason why only these two have been selected is because they have reached the saturation phase, where both the informants' responses have followed a similar pattern. Compared to studies with complicated subjects, fewer research informants are needed if the subject is obvious and the interview provides sufficient information (Bekele, & Ago, 2022). For this investigation, these two informants are sufficient, as their responses have indicated a consistent pattern. The face-to-face interviews with the management of these *Keropok Lekor* operators were conducted in August 2024 at their respective factories in Kuala Terengganu. During the interviews, the researchers engaged in a process known as 'probing', which involves asking questions and conducting further research based on answers provided by the interviewees. The researchers have developed the questions based on the research objectives, which aim to understand the operators' perceptions of *Keropok Lekor* and their approaches to the halal practices. Hence, the interviews have been recorded and the recordings have then been transcribed using the NVIVO software. The theme has been identified throughout the transcript. The themes used to analyze the transcript have been food heritage, halal practices, and challenges. The two producers of *Keropok Lekor* involved are listed below:

Table 1: Profile of the Informants

No.	Name of Keropok Lekor Brand	Year of establishment	Generation
Informant 1	Keropok Lekor 888	1995	1
Informant 2	Keropok Lekor Cap Nelayan	2010	1

4. Results and Discussion

Keropok Lekor as Food Heritage in Terengganu, Malaysia: *Keropok Lekor* is also referred to as *Keropok Batang* or *Keropok Tongkol* in Kelantan and Pahang, respectively, and originated from Terengganu. Informant 1 is the first generation in his family to run a *Keropok Lekor* business, driven by his deep interest in the dish. He has endeavored to establish 888 Keropok Lekor shops, experimenting with various *Keropok Lekor* recipes until he discovered a delectable one. Until now, he has been contributing to the local economy by employing workers living nearby, including his family members. In the meantime, Informant 2 has been making *Keropok Lekor* with her husband for the past fourteen years. Before being active in the *Keropok Lekor*-making business, Informant 2 has been involved in the production of *Keropok Keping* for only three years. This has been because the *Keropok Keping* process has been time-consuming and influenced by the unpredictable weather in the State of Terengganu more than *Keropok Lekor*, which can be frozen.

Both informants have agreed that, although there are various methods of making *Keropok Lekor*, the traditional way of making them is still maintained until now. A wide range of fish species, such as mackerel, purple-spotted bigeye, yellow goatfish, sardine, threadfin bream, and sea bass, are still being utilized in the production of *Keropok Lekor*. In addition to minced fish, the primary components include tapioca starch, sugar, salt, crushed ice, sago flour, and a permissible flavor enhancer, which are ingredients that have been discussed by previous scholars, including Jamilah et al. (2024), Asby et al. (2024), and Abdullah et al. (2024). Meanwhile, the making of *Keropok Lekor* often entails several steps, such as preparing the fish, combining the ingredients, making the dough, shaping it, boiling it, and deep-frying it. This tradition is still being maintained to ensure that the quality of *Keropok Lekor* is still the same and delicious to eat. The interviews have also shown that *Keropok Lekor* has long been a part of Terengganu's well-branded food heritage, as mentioned in the statement below:

"*Every school holiday or weekend, this shop must be packed with tourists who come to buy Keropok Lekor. The Keropok Lekor market no longer needs to be introduced because it's already well-known to its fans.* (Informant 1)

"*The production was unable to conduct an online promotion due to the high demand for Keropok Lekor, from both residents and outsiders who came to wholesale Keropok Lekor*". (Informant 2)

Hence, the distinctiveness of each *Keropok Lekor* in the State of Terengganu lies in the fact that, despite the presence of numerous operators, the taste and texture vary slightly. This is one of the reasons Terengganu's *Keropok Lekor* has so many different brands, depending on the manufacturers or operators. Based on the statements uttered above by both Informants 1 and 2, this phenomenon is caused by the unique recipe and cooking technique of *Keropok Lekor* itself. While the main ingredients remain the same, the selection of fish and flour mixture plays a crucial role in distinguishing the taste and texture of *Keropok Lekor*.

Halal Practices and Challenges among Keropok Lekor Operators in Terengganu, Malaysia: Based on the results of the investigation on the halal practices by the *Keropok Lekor* operators, it has been revealed that Informant 1 has not received a halal stamp from SIRIM. Despite this, he has continued to maintain high standards of cleanliness and hygiene when producing *Keropok Lekor*. For many *Keropok Lekor* operators, the halal stamp is not necessary for now because tourists or consumers still trust and believe that *Keropok Lekor* is halal, thus, it can be eaten by all. This is due to the long-standing belief and culture that *Keropok Lekor* is halal, as they do not use any raw materials or ingredients that are forbidden according to their respective religious beliefs. Even though Informant 2 has applied for halal practices and received the stamp, she has not used it to package *Keropok Lekor* and other related products. Like Informant 1, she also has faith in tourists' and consumers' confidence, ensuring that *Keropok Lekor* remains halal, even without a halal stamp.

In addition, according to information received from Informant 1, he has applied for halal certification approval but has failed and needs to be improved. There is another challenge in terms of obtaining the halal stamp, which is related to facilities available in a setting where *Keropok Lekor* is manufactured that must meet certain specifications set by SIRIM. Furthermore, Informant 1 has also informed that enhancing the facilities would require a significant financial investment, which he could not afford due to his primary focus on maintaining smooth business operations. Most of the operators of *Keropok Lekor* run small- and medium-sized enterprises (SMEs). In the meantime, the challenge for Informant 2 in applying the halal certificate has stemmed from the high cost of printing out the packaging with the halal stamp, which is not justified by the price of *Keropok Lekor*. This means that if the *Keropok Lekor* operators decide to print the halal stamp, they will have to incur some losses, and it will take time for them to break even, given the business conditions in the SME category.

In the interim, both informants have also agreed that the halal-certificate application procedure is very fussy and cannot be fulfilled by the SME operators. In addition, they have also stated that, even without a halal certificate, they could still turn a profit and continue to operate. It is clear that both operators continue to cater solely to domestic demand; however, unlike the current sales trend, they do not engage in online sales. This is due to their emphasis on quality over quantity, as well as their ability as the SME operators to sustain the *Keropok Lekor* enterprise and maintain its resilience in the market. Meanwhile, they have recommended that the entity issuing the halal certificate should streamline the procedure and adhere to the current business category. Typically, operators who have halal certificates are the ones who are self-aware, whose cognizance is raised by awareness campaigns. However, if there is no stringent enforcement or consideration made by JAKIM in the application, many operators will not apply for it as long as it would not affect their businesses. Some have even blamed expensive printing costs as a culprit behind the idea of why they have not renewed their halal certificates. This aligns with the findings of Dashti et al. (2024), who have highlighted the challenge of monitoring and enforcing halal practices by entities issuing halal certificates due to the absence of a traceability system at local and regional levels.

5. Conclusion

In conclusion, the findings have revealed that *Keropok Lekor*, which is among the key components of Terengganu's food heritage, faces significant challenges in maintaining halal practices. It is known that food heritage and halal practices are both critical components of local food identity, yet they must coexist in a way that preserves cultural values while meeting the needs of current certification standards. The challenges of sustaining halal practices, particularly in small-scale production settings, include financial constraints, sourcing halal ingredients, and aligning traditional production methods with current certification requirements. There are some similarities between this study and the one done by Said et al. (2024), which are the fact that both studies have looked at the guidelines for halal practices that say that the food industry should improve the halal processes to make sure that the rules and standards are clear. By looking into these food heritage and challenges, this study has shown how business owners can protect heritage while also following the halal rules. This will help *Keropok Lekor* to stay around for a long time as both the food heritage and a halal-certified product, which are in line with the Malaysia Halal Industry Master Plan 2030 (Halal Development Corporation, 2021).

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Perceived Value Dimensions and Guest Satisfaction: An Analysis of Functional, Social and Emotional Values in Five-Star Hotel Organizations

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Abstract: Customer satisfaction is one of the most essential measurements that indicates how well a company's goods or services live up to the expectations of its clients. In the hotel industry, the level of customer satisfaction is represented by guest satisfaction. This study aims to explore factors that influence guest satisfaction in hotel organizations. Specifically, the study aims to examine the influence of perceived value dimensions, which are functional value, social value, and emotional value, on hotel guests' satisfaction. A quantitative study approach has been adopted through online survey questionnaires involving 370 respondents who have prior experience staying in five-star hotel organizations. Data have been gathered and analyzed using a reliability test, descriptive statistics, correlation, and multiple regression analyses with the assistance of the IBM SPSS software. The data have indicated that the perceived value dimensions have a significant effect on the hotel guests' satisfaction. The findings have revealed that social value and emotional value positively influence the hotel guests' satisfaction with social value being the most significant factor. These results underscore the importance of the perceived value dimensions as the measurement of the hotel guests' satisfaction. The study contributes to the limited number of studies that focus on the trend and antecedents of customer satisfaction in the hotel industry. Besides, it also serves as a foundation, inspiring future researchers to explore more on other factors that may shape guest satisfaction and how it contributes towards customer retention in hotel organizations.

Keywords: *Perceived Value, Functional Value, Social Value, Emotional Value, Guest Satisfaction*

1. Introduction

A notion stating that providing clients with high-quality services is crucial for attaining high levels of customer satisfaction is widely acknowledged, supported, and practiced. The theory's proponents seem to think that offering top-notch services will lead clients to feel happier, who will then stick with the same company or service provider. On the other hand, offering sub-par services will contribute towards low customer loyalty, which would deter customers from coming back. In the hospitality industry, the notion of customer satisfaction is often closely related to guest satisfaction. It is primarily associated with organizations, such as hotels, resorts, restaurants, or event venues, and focuses on the quality of the overall experience, including ambiance, personalized interactions, and comfort provided during a guest's stay or visit. In addition to that, guest satisfaction in the hospitality industry also measures how content the guests are with the hotel services they experience (Castro et al., 2023). To date, many hotel organizations have experienced an increase in demand for high-quality products and services as a result of the increasing number of internationally ranked, high-quality, and exclusive hotels around the world. According to previous research, determining guest satisfaction without determining the value customers place on a service does not exceed what they require (Angelova & Zeqiri, 2011; Castro et al., 2023). To maintain long-term relationships, hotel companies place a greater emphasis on customer service and make necessary adjustments to meet customer needs.

In the world that has emerged from the pandemic, the criteria for measuring customer satisfaction have changed drastically (Monmousseau et al., 2020; Srivastava & Kumar, 2021; Wu et al., 2021; Wu & Huo, 2023). Since the economic climate has become more complex and unpredictable, a large proportion of consumers are willing to consider a variety of brands and companies to find a vast selection that meets their ever-changing preferences and interests. In this context, several researchers have argued that increasing the level of service is essential, but it is insufficient to achieve the required customer-satisfaction level. Alternately, increasing guest satisfaction increases customer loyalty and repeat business from existing customers. It has also been demonstrated that employing the same strategy increases customer satisfaction and has a significant impact on customer loyalty (Leninkumar, 2017).

In the post-pandemic era in Malaysia, there were limited studies examining the level of satisfaction among hotel guests (Khan & Hashim, 2020). Hotel organizations must recognize the importance of customer perceptions so that all customers are satisfied with the services offered. In addition to that, perceived value correlates positively with customer satisfaction and plays an important role in the hospitality industry in terms of guest satisfaction. Therefore, hotel organizations must identify factors associated with guest satisfaction based on the perceived value dimensions, which include functional value, social value, and emotional value. Each of these factors has been selected because these variables have been used to measure guest perceptions on the value of hotel services. In return, the hotel organizations can formulate more effective strategies for competing in the increasingly competitive market and, at the same time, provide hotel guests with actual value that they perceive as one of the primary focuses of the companies' operations.

This study aims to explore factors that influence guest satisfaction in hotel organizations. Specifically, the study seeks to examine the influence of the perceived value dimensions, which are functional value, social value, and emotional value, on guest satisfaction in the hotel organizations. Furthermore, the study also aspires to identify a relationship between each of the perceived value variables and guest satisfaction.

2. Literature Review

Guest Satisfaction: Guest satisfaction refers to the degree of satisfaction and fulfillment that customers feel after interacting with a firm, especially in the hotel sector. It shows how well experiences and services offered match or surpass the expectations of the visitors. According to Kandampully and Suhartanto (2000 & 2003), "Guest satisfaction is the measure of how the needs and expectations of guests are met during their stay, significantly influencing their intention to return and recommend the service to others". Guest satisfaction and customer satisfaction are closely related concepts, but they are used in slightly different contexts depending on industries and types of service interaction. Typically, guest satisfaction is primarily associated with the hospitality industry and focuses on the quality of the overall experience, for instance, ambiance, personalized interactions, and comfort provided during a guest's stay or visit. Meanwhile, customer satisfaction emphasizes a broader term applicable across various industries, including retail, technology, and services, and it also emphasizes satisfaction derived from products or services purchased and how well they meet expectations. According to Kotler and Keller (2016) and Singh et al. (2018), "Customer satisfaction is the extent to which a product's perceived performance matches a buyer's expectations. If the performance falls short of expectations, the customer is dissatisfied. If it matches or exceeds expectations, the customer is satisfied or even delighted". Apart from that, customer satisfaction is also anticipated to result from outstanding service efficiency, which will improve customer engagement and interrelationships (Chang et al., 2017). It is often evaluated after a period of consumption associated with specific products or firms (Ram & Wu, 2016).

In the meantime, Biesok and Wyród (2017) have defined customer satisfaction as a perception of product quality and value attained by customers according to their ideal criteria. Research has repeatedly shown that customer interactions, physical settings, and service quality all have a major impact on overall satisfaction levels, which in turn influence how likely customers are to recommend and return (Zarezadeh et al., 2022; Liang, 2024; Singgalen, 2024). These essential elements interact dynamically rather than functioning independently to create a comprehensive picture of a guest experience. Nonetheless, in the post-pandemic world, parameters for customer satisfaction have changed considerably (Monmousseau et al., 2020; Srivastava & Kumar, 2021; Wu et al., 2021). Therefore, service providers must modify their offers in response to clients' shifting demands and preferences. According to studies, service providers who prioritize adding value for clients during the pandemic have a higher chance of keeping them and raising their satisfaction (Vink et al., 2021).

Perceived Value: The term 'perceived value' describes how guests weigh the advantages and caliber of their hotel stay against the expense or work necessary to get it. It shows how well the guests balance the things they get, such as good service, facilities, and experience, with the things they give up, including money or time. According to Zeithaml (1988), perceived value is "the consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given". The concept of perceived value is related to product or service benefits, thus, it is important to understand how this value is seen or viewed by a customer and what type of values or dimensions can be created by a company (Aulia et al., 2016). The theory of perceived value has been applied to the study of consumer behavioral intention in the traditional hotel-service industry. To improve hotel-service efficiency, it is essential to comprehend the significance of customers' perceived value as a factor influencing customer behavior (Furukawa et al., 2019). In addition to that, a study by Quang et al. (2024) has highlighted several factors that enhance perceived value and reinforce positive emotional responses, which can lead to heightened satisfaction among guests.

Functional Value: According to Sweeney and Soutar (2001), functional value for a price, also known as value for money, is the value customers derive from a product based on their perceptions of how much it will cost them in the long and short terms. Functional value deals with practical information like price, room design, or bed size (Cheung et al., 2021). Additionally, functional value is mainly a means of creating emotional value (Kato, 2021). In the hospitality industry, for example, functional value may include the comfort of a hotel room, the efficiency of check-in processes, or the availability of essential amenities, all of which contribute to a guest's overall satisfaction. Hence, functional elements should be considered to cover fundamental hotel experiences to minimize bad experiences (Sánchez Vargas et al., 2024).

Social Value: Social value is a crucial component of the overall value, especially in the hospitality industry (Rasoolimanesh et al., 2016). The social value in the hospitality sector involves a great deal of interaction between tourists, those who provide hospitality services, and those who offer community services. Typically, customers tend to remain loyal to a brand if they believe that the brand resembles or shares the values and characteristics of their ideal customers. In other words, brand loyalty is increased when a consumer identifies with the brand in question (Zhou et al., 2012). In the interim, both opulence and luxury also play important roles in society's fundamental values. These factors, according to Goldsmith et al. (2012), strengthen clothing consumers' brand loyalty. In addition, customers select goods that will improve their social image to elevate their social standing. According to Levyda (2017), the social image of customers is expected to be strengthened by a hotel's name, classification, reputation, brand class, and brand name.

Emotional Value: Customer perceptions of value comprise multiple factors, each with its effect. Emotional value refers to the promotion of positive or negative emotions in one's own life (Zainuddin & Gordon, 2020). Emotional value has been discovered to be the most significant contributor to overall customer satisfaction among the three customer values deemed to be especially significant (Rasoolimanesh et al., 2020). Besides, emotional value also demonstrates a substantial mediator function, confirming that the novelty and hedonism of a hotel accommodation experience play a substantial role in enhancing guest satisfaction. A study by Rasoolimanesh et al. (2020) has investigated a connection between customers' emotional experiences and their levels of satisfaction. Furthermore, emotional value also refers to messages based on feelings evoked by a service (Cheung et al., 2021). Kim et al. (2021) have discovered a favorable correlation between emotional value, such as enjoyment, excitement, and relaxation, and hotel patron satisfaction. They have discovered that guests are happier at hotels when they have a favorable emotional experience.

3. Methodology

This study has employed a quantitative-research method to investigate the influence of the perceived value dimensions on guest satisfaction in hotel organizations. The samples have been randomly selected from the target study population restricted to hotel guests who have stayed in five-star hotels. The age of the population chosen has been 18 years old and above. A set of questionnaires has been developed as an instrument for this study. The questionnaire consists of close-ended questions with a structured query to the targeted respondents. The sets of questionnaires have been adopted from Amin et al. (2014). All the questionnaires have been distributed online using Google Forms via social-media platforms. This study has employed a five-point Likert-scale-based survey instrument, which has been divided into four sections, encompassing demographic profiles and the perceived value dimensions, including functional value, social value, emotional value, and guest satisfaction. A total of 370 valid responses have been received, thus, achieving the minimum study sample size. The data have been analyzed by using the Statistical Package for Social Science (SPSS). The reliability test has been undertaken to ensure that all the survey items reach the reliability rate. Table 1 below shows Cronbach's alpha value for the independent and dependent variables. Fundamentally, Cronbach's alpha value greater than 0.8 is considered as having good internal consistency (Salkind, 2015). Based on the table below, it can be concluded that all the variables involved in the study have good internal consistency.

Table 1: Reliability Analysis

Variable	Number of Items	Cronbach's Alpha	Relationship
Functional value	5	0.963	Very good
Emotional value	5	0.938	Very good
Social value	5	0.955	Very good
Guest satisfaction	5	0.941	Very good

4. Findings and Results

A total sample of 370 responses was collected over four weeks. The demographic profiles of the respondents are presented in Table 2 (n=370) below. Both male and female respondents make up an equal proportion of 50%. For ages, the highest range is represented by a group of respondents aged 18 to 27 years, with the majority of 33.8%. The educational qualifications of the respondents indicate that a significant portion of 56.5% hold a bachelor's degree, while the remainder possess a diploma and a Master's degree. The majority of the respondents, 88.1%, have been identified as single, whereas 11.9% are married. Meanwhile, statistics about employment have revealed that 61.9% of the respondents are government officers, followed by those self-employed at 34.9%, and the rest are business owners, employees in non-governmental organizations, and unemployed individuals. In the meantime, the analysis of the respondents' monthly-income levels has revealed diverse distributions, which are 31.4% of the respondents have been discovered to earn an income between RM1,500 and RM1,999, 33% earn between RM2,000 and RM2,999, 0.8% earn between RM3,000 and RM3,999, 22.4% earn between RM4,000 and RM4,999, and 12.4% earn more than RM5,000.

Table 2: Demographic Profiles of the Respondents

Variable	Category	Frequency (N)	Percent (%)
Gender	Male	185	50
	Female	185	50
Age	18-27 years old	125	33.8
	28-37 years old	119	32.2
	38-47 years old	84	22.7
	48-57 years old	42	11.4
Education	SPM	0	0
	Diploma	117	31.6
	Bachelor's Degree	209	56.5
	Master's Degree	43	11.6
	PhD and above	0	0
Marital status	Married	44	11.9
	Single	326	88.1
Employment status	Unemployed	5	1.4
	Government officer	229	61.9
	Business owner	5	1.4
	Self-employed	129	34.9
	Others: non-government	2	0.6
Monthly Income	RM1,500 – RM1,999	116	31.4
	RM2,000 – RM2,999	122	33
	RM3,000 – RM3,999	3	0.8
	RM4,000 – RM4,999	83	22.4
	More than RM5,000	46	12.4

Based on the overall results displayed in Table 3 below, all three factors, which are functional value, social value, and emotional value, have a positive trend and contribute to the hotel guests' satisfaction based on the mean scores. For functional value, the most frequent response is “Hotel service is fairly priced”, which comes with the mean score of 4.97. For social value, most of the respondents have agreed that “Employees are willing to serve customers” and “Hotel provides guests a safe and secure place”, with the mean score of 4.98. However, emotional value has the highest mean, which is 4.97.

Table 3: Descriptive Analysis of the Functional Value, Social Value, and Functional Value

No.	Item	N	Mean	SD
Functional Value				
	The price of a room per night is affordable	370	4.95	0.267
	The hotel service is fairly priced	370	4.97	0.206
	The hotel is economical	370	4.96	0.224
	The food is worth the price	370	4.95	0.281
	The hotel service is worth the money	370	4.95	0.281
Social Value				
1.	The employees are willing to serve customers	370	4.98	0.186
2.	The employees are always available when needed	370	4.96	0.224
3.	It is easy to access the hotel (e.g., transportation, parking area, etc.)	370	4.96	0.224
4.	The hotel is convenient for disabled guests	370	4.96	0.235
5.	The hotel provides guests a safe and secure place	370	4.98	0.171
Emotional Value				
1.	The staff always performs the service right	370	4.97	0.199
2.	The staff gives prompt service (e.g., concierges gently carrying the guests’ luggage)	370	4.97	0.213
3.	The employees understand the specific needs of guests (e.g., requesting a specific room or toiletries)	370	4.96	0.212
4.	The atmosphere and equipment are comfortable and appropriate for the purpose to stay	370	4.97	0.199
5.	The guest is comfortable to communicate with the staff (e.g., the staff wearing facial masks and keeping a distance while assisting)	370	4.97	0.178

Meanwhile, Table 4 below highlights the items that contribute to the hotel guests’ satisfaction. Item no. 1, which refers to “The hotel’s location is convenient (e.g., close to mall)”, has the highest mean score of 4.98, followed by room facilities (e.g., air conditioner, television, refrigerator, safety box, telephones, and Wi-Fi), cleanliness of the room, and the staff’s service quality that share the same mean score of 4.97. The least mean score for the guests’ satisfaction belongs to “Transportation facilities are available (e.g., shuttle service)”, which is 4.96.

Table 4: Descriptive Analysis of the Hotel Guests’ Satisfaction

No.	Item	N	Mean	SD
1.	The hotel’s location is convenient (e.g., close to the mall)	370	4.98	0.163
2.	Transportation facilities are available (e.g., shuttle service)	370	4.96	0.241
3.	Room facilities are complete (e.g., air conditioner, television, refrigerator, safety box, telephones, and Wi-Fi)	370	4.97	0.178
4.	Cleanliness of the room is upheld	370	4.97	0.178
5.	Staff’s service quality is outstanding	370	4.97	0.178

Based on the results displayed in Table 5 below, it has been discovered that there is a positive relationship between all the variables, which are functional value and guest satisfaction ($r=0.946$, $p<0.001$), social value and guest satisfaction ($r=0.967$, $p<0.001$), and emotional value and guest satisfaction ($r=0.955$, $p<0.001$), suggesting that the strength of all the associations is moderate.

Table 5: Correlation Analysis

Variable	Functional Value	Social Value	Emotional Value
Guest satisfaction	0.946**	0.967**	0.955*
Sig. (2-tailed)	<0.001	<0.001	<0.001
N	370	370	370
Strength of relationship	Positive and moderate	Positive and moderate	Positive and moderate

Based on the multiple regression analysis conducted, Table 6 below exhibits the coefficients of the independent variables about the dependent variable. The coefficient values indicate that social value and emotional value are significant at 0.000, whereas functional value is not significant with the value of 0.789. The standardized coefficients indicate that social value exerts the greatest influence on the hotel guests' satisfaction, followed by emotional value at 3.561.

Table 6: Multiple Regression Analysis – Coefficient

Model	Standardized Coefficients Beta	t	Sig.
Functional value	-0.009	-0.268	0.789
Social value	0.450	16.329	0.000
Emotional value	0.127	3.561	0.000

a. Dependent Variable: Guests' Satisfaction
*Note: Adjusted R^2= 0.970 *p < 0.05*

In the interim, Table 7 below showcases the value of R-square, which is 0.971. Based on this value, it can be anticipated that the independent variables, which are functional value, social value, and emotional value, contribute 97.1% to guest satisfaction. Meanwhile, the remaining 2.9% contributes towards guest satisfaction, which is obtained by other independent variables that have not been measured in this study.

Table 7: Multiple Regression Analysis – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.985	0.971	0.970	0.2938

a. *Predictors: (Constant), Functional Value, Social Value, and Emotional Value*
b. *Dependent variable: Guest Satisfaction*

Discussion

The study has aimed to empirically examine the influence of the perceived value dimensions encompassing functional value, social value, and emotional value on guest satisfaction in the hotel organizations and identify the relationship between each of the perceived value dimensions and guest satisfaction.

For the first objective, the findings have indicated that two variables, namely social value (β = 0.450; P = 0.05), and emotional value (β = 0.127; P = 0.05), have a significant influence on guest satisfaction, while another variable, which is functional value, has no significant influence on the hotel guests' satisfaction. Social value refers to a contribution a hotel makes, especially to increase guest satisfaction, while emotional value represents feelings and psychological benefits guests derive from their experiences with the hotel. The findings confirm that both social and emotional values play a pivotal role in the hotel industry as they significantly impact guest satisfaction, experience, loyalty, and brand reputation. As a result, hotel organizations may include social and emotional values into their offerings, so that they may meet their patrons for memorable and significant experiences (Kim et al., 2021).

For the second objective, the results have highlighted the relationship of each perceived value dimension and guest satisfaction based on Pearson's correlation analysis, as displayed in Table 5. The overall results have shown that there is a positive relationship between functional value and guest satisfaction (r=0.946, p<0.001), social value and guest satisfaction (r=0.967, p<0.001), and emotional value and guest satisfaction (r=0.955, p<0.001). In other words, when functional value, social value, and emotional value increase, guest satisfaction will also increase. This has been supported by Rasoolimanesh et al. (2020), whose study has identified that functional, emotional, and social values have a significant, positive effect on guest satisfaction. Additionally, several authors have also suggested that enhancing functional, social, and emotional values can lead to increased guest satisfaction, which may also positively influence revisit intentions and customer loyalty (Rasoolimanesh et al., 2020; Chandel & Bansal, 2014; Mohd Akhir et al., 2023).

The overall findings have highlighted the significance of customers' perceived values as a basis for raising customer satisfaction in the hospitality sector. The findings are expected to have motivated the hospitality sector to focus more on the perceived value of their offerings and apply this information as part of its successful plan to grow the hotel market. Additionally, this study has also uncovered how customers view values and aimed to educate the communities on the unique requirements and determinants of consumer choices, especially in the hotel industry.

5. Conclusion and Recommendations

This study has examined the influence of perceived value on guest satisfaction in hotel organizations. The analysis of the respondents' demographic profiles has uncovered a varied sample, primarily consisting of young adults with different educational backgrounds and employment situations, indicative of the various guests who have stayed in five-star hotel organizations. The results have revealed that social value and emotional value are the most prominent factors that influence guest satisfaction while staying at the hotel organizations. Meanwhile, one of the study's limitations is the lack of prior research and literature on customer satisfaction in hotel organizations, specifically covering perceived value dimensions. Since references for this study are not as widely available as other areas of interest on the Internet, locating them can be a time-consuming task. Apart from that, the respondent-selection procedure has also become a challenge since the study has focused on the hotel guests who have had experiences of staying in five-star hotel organizations. Overall, the study has managed to provide valuable insights in identifying the factors that influence guest satisfaction in the hotel organizations. For instance, the study has introduced the perceived value dimensions, which are functional value, social value and emotional value, and elaborated their importance as a foundation for increasing guest satisfaction in the hospitality industry. Therefore, the findings of this study are hoped to inspire the hospitality industry to place a greater emphasis on the perceived value variables of their services and use this knowledge as part of a successful strategy to expand the hotel market. It is highly recommended that future researchers explore other factors further, which may contribute towards customer satisfaction and how it contributes to customer retention in hotel organizations.

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Exploring Factors Influencing Students' Satisfaction at Arked Meranti, Universiti Teknologi Malaysia

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Abstract Student satisfaction with campus food services plays a crucial role in their well-being and academic success. This study explores the key food service attributes influencing student satisfaction at Arked Meranti Cafeteria, Universiti Teknologi Malaysia, Skudai, Johor, focusing on students from Rahman Putra College and Tun Fatimah College. A quantitative research design was employed, with data collected from 341 students through an online survey distributed via Google Forms. The survey covered demographic details and four key food service attributes: food and beverage quality, service quality, setting quality, and price-value perception. Data was analyzed using IBM SPSS Statistics version 27. The results indicate that all variables significantly contribute to overall student satisfaction. Descriptive analysis provided insights into satisfaction levels, while multiple regression analysis determined the relative impact of each attribute. The findings reveal that setting quality ($\beta = 0.331$) has the strongest influence on satisfaction, followed by service quality ($\beta = 0.316$) and food and beverage quality ($\beta = 0.219$), whereas price and value ($\beta = 0.005$) have the least impact. These findings expand existing knowledge on student satisfaction at Arked Meranti by emphasizing the significance of key factors. Additionally, they offer recommendations for university management to improve student satisfaction.

Keywords: *Influencing Factors, Students, Satisfaction, Arked Meranti*

1. Introduction

A cafeteria is a type of restaurant where guests receive food and beverages in exchange for payment made either before or after the meal (Misiran et al., 2022). Cafeteria food services operate in diverse settings, including hospitals, nursing homes, child and senior care centres, prisons, schools, and university campuses. Among these, university food service represents a significant segment of the global food service industry, as an increasing number of college students rely on on-campus dining facilities during their studies (Smith et al., 2020). The primary goal of university cafeterias is to meet students' basic dietary needs while promoting awareness of nutrition and health (Sha, 2020). In this regard, Ahmad Shariff et al. (2023) noted that the growing student population has led to increased demand for dining options on campuses, making cafeterias essential providers of quality, healthy, and hygienic food.

University cafeterias play a vital role in catering to the dietary needs of students, staff, and visitors (Noh et al., 2023). The quality of food, as highlighted by Serhan and Serhan (2019), is a critical factor in customer satisfaction. A cafeteria with quality food, excellent facilities, and a comfortable environment can enhance student satisfaction, foster a sense of belonging, and encourage social interactions. Given that students spend considerable time on campus, universities must prioritize providing excellent food service to improve their campus experience (Noh et al., 2023).

This study focuses on student satisfaction with the UTM cafeteria, considering not just food taste but also key attributes such as quality of food and beverage, quality of service, quality of setting and value and price. Understanding these factors is vital for university administrators aiming to maintain a positive campus environment. High satisfaction levels in campus cafeterias foster loyalty, positive word of mouth, increased sales, and overall better campus experience, ultimately supporting academic success. Conversely, dissatisfaction can have detrimental effects. This study aims to identify and explore the food service attributes: quality of food and beverages, quality of service, quality of setting, and price, that significantly impact student satisfaction.

2. Literature Review

Students' Satisfaction: Customer satisfaction is determined by the extent to which a product or service meets or exceeds customer expectations. Suchánek et al. (as cited in Afroza et al., 2022) describe satisfaction as a subjective evaluation based on expectations and post-purchase experiences. In the context of higher education, numerous studies have identified key attributes influencing students' satisfaction with food services, including food quality, service quality, setting quality, and price and value (Serhan & Serhan, 2019). These factors shape students' choices and satisfaction levels, offering insights for university administrators seeking to enhance cafeteria services (Afroza et al., 2022). Unlike many studies that approach student satisfaction solely from a customer satisfaction perspective, this research aims to establish a comprehensive definition of student satisfaction specific to university food services (Afroza et al., 2022).

Quality of Food and Beverages: Food quality consistently emerges as a critical determinant of customer satisfaction in cafeteria and restaurant studies (DK et al., 2020). Attributes such as taste, freshness, aroma, presentation, color, and texture significantly influence students' perceptions (Afroza et al., 2022). Previous research confirms that food and beverage quality is often the most impactful factor in university cafeteria satisfaction (Ahmad Shariff et al., 2023). Ibrahim et al. (2018) found that improved food quality could encourage students to dine more frequently at on-campus facilities. Thus, food service operators should diversify their menus and offer appealing options that align with students' nutritional needs (Ahmad Shariff et al., 2023). However, studies have highlighted a persistent issue of energy-dense, nutrient-poor food options in institutional cafeterias, underscoring the need for healthier offerings (Serhan & Serhan, 2019).

Quality of Service: Service quality plays a significant role in dining satisfaction, particularly among health-conscious and adventurous diners (Ahmad Shariff et al., 2023). Interactional quality is a crucial element in enhancing college student satisfaction (Akbara et al., 2021). Studies further reveal that service quality affects customer satisfaction and loyalty in food service settings. Additionally, the physical environment impacts emotional and cognitive responses, shaping perceptions of service quality (Ali et al., 2014). Effective service quality evaluation tools can help operators improve their offerings and foster greater satisfaction among students (Misiran et al., 2022).

Quality of Setting: The setting, encompassing atmosphere and operational aspects, significantly influences students' perceptions of campus food services (Serhan & Serhan, 2019). Key elements such as cleanliness, decor, lighting, and the dining environment play a vital role in satisfaction (Ngah et al., 2022) for instance, creating a welcoming atmosphere can foster a sense of community and encourage relaxed interactions among students. Research has also indicated that the quality of the dining setting impacts overall satisfaction by enhancing the consumer experience (Akbara et al., 2021). Cafeterias can achieve this by offering aesthetically pleasing decor, convenient facilities, and comfortable environments tailored to students' preferences.

Price and Value: Price and value significantly influence students' food service choices due to their limited financial resources, often derived from scholarships or loans (Othman et al., 2013). Affordable pricing and perceived value for money are critical factors in maintaining satisfaction and meal frequency (Smith et al., 2020). Students are more likely to feel satisfied when the price aligns with the quantity and quality of the food offered. Conversely, higher prices elevate quality expectations, which must be met to sustain satisfaction (Serhan & Serhan, 2019). Therefore, food service providers should ensure an appropriate balance between cost, portion sizes, and quality to maximize satisfaction and loyalty.

3. Methodology

Research Design, Sampling and Measurement: This study adopted a quantitative approach and used online questionnaires for data collection. It draws on the work of Serhan & Serhan (2019), Misiran et al. (2022) and Ahmad Shariff et al. (2023) as guidance for the study's methodology and analysis. The primary aim is to examine the factors influencing university students' satisfaction at Arked Cafeteria, Universiti Teknologi Malaysia, Skudai, specifically the quality of food and beverages, service quality, the quality of the setting, and price and value.

The respondents were required to have a prior dining experience at Arked Cafeteria. The study's population comprised 3000 students from nearby colleges, Rahman Putra and Tun Fatimah, and convenience random sampling was employed. Based on Krejcie and Morgan's (1970) sample size determination, 341 students were required to achieve a 95% confidence level.

An online questionnaire comprising 34 items across six (6) sections was used for data collection. The closed-ended questionnaire employed a 5-point Likert scale, with responses ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Section A focused on demographic details, including age, gender, race, college, semester, income, frequency of cafeteria visits, and reasons for dining at the cafeteria. Section B included questions related to the independent variables, addressing the factors influencing students' satisfaction with dining at Arked Cafeteria, Universiti Teknologi Malaysia, Skudai. Data collection was conducted in March 2024.

Reliability of the Instruments: A pilot study was conducted with 30 students from Rahman Putra College and Tun Fatimah at UiTM Skudai, Johor. Table 1 below summarizes the Cronbach's alpha values from the reliability test for all the independent variables: quality of food and beverages, quality of service, quality of setting, and price and value, as well as the dependent variable, students' satisfaction. The results demonstrate acceptable reliability, with the lowest alpha value being 0.730 for "price and value" and the highest being 0.92 for "quality of food and beverages." The dependent variable, students' satisfaction, recorded Cronbach's alpha value of 0.887.

Table 1: Reliability Test

Variables	Dimensions	Cronbach Alpha	Number of Items
Independent Variables	Quality of Food and Beverages	0.928	6
	Quality of Service	0.861	5
	Quality of Setting	0.880	5
	Price and Value	0.730	5
Dependent Variables	Student Satisfaction	0.887	4

4. Findings

Table 2 postulates the demographic profile characteristics of 341 respondents who participated in this study. The study respondents were aged 18–40 years, with the most frequent age group being 21–23 years (37.5%), while the least frequent was 31–40 years. This aligns with the typical age for post-secondary studies (National Center for Education Statistics, 2021). Regarding gender, there were more males (51.6%) than females (48.4%), likely due to higher male enrollment in technical courses (Higher Education Statistics Agency, 2024). In terms of ethnicity, 32.0% of the participants are Chinese, 30.5% Indian, 20.5% others and 17.0% Malay, reflecting the institution's diverse student body (Ministry of Education Malaysia, 2023). Most respondents were from Rahman Putra College (52.8%), followed by Tun Fatimah College (47.2%), possibly due to both colleges' proximity to the cafeteria and larger student population (University Statistical Report, 2023).

Students in Semester 4 had the highest representation (16.7%), while Semester 1 students had the lowest (7.9%), suggesting greater engagement among mid-semester students (University Statistical Report, 2023). Most respondents fell within the RM1500–RM2500 income range (29.0%), with the lowest representation in the RM3000 and above category (10.3%), reflecting typical student financial conditions (Department of Statistics Malaysia, 2023).

A majority of respondents responded they visit the cafeteria "3 times" weekly (29.0%), followed by "2 times" (28.2%), and "4 and above" (17.3%). This indicates that most students visit the cafeteria two to three times weekly, likely due to meal schedules and campus activities (University Food Services Report, 2023). Concerning monthly expenditure on food, most participants spent RM200–RM300 (31.4%), while the least amount of participants spent RM300 and above (11.7%), highlighting their budget-conscious spending (Ministry of Higher Education Malaysia, 2023). The main reasons for cafeteria preference include meal variety (46.0%), proximity (33.4%), service quality (12.6%), and affordability (7.9%), underscoring the importance of diverse menus and convenience in dining choices (University Dining Services Survey, 2023; Ismail et al., 2020).

Table 2: Respondents' Demographic Profiles

Variables	Categories	Frequency	Percentage (%)
Age	18 -20 years old	91	26.7
	21 - 23 years old	128	37.5
	24 - 30 years old	94	27.6
	31 - 40 years old	28	8.2
	41 years old and above	0	0.0
Gender	Male	176	51.6
	Female	165	48.4
Race	Malay	58	17.0
	Chine	109	32.0
	Indian	104	30.5
	Others	70	20.5
College	Rahman Putra College	180	52.8
	Tun Fatimah College	161	47.2
Semester	1	27	7.9
	2	53	15.5
	3	44	12.9
	4	57	16.7
	5	44	12.9
	6	38	11.1
	7	46	13.5
	8	32	9.4
Income	Null	76	22.3
	Less than RM1500	87	25.5
	RM1500 - RM2500	99	29.0
	RM2500 - RM3000	44	12.9
	RM3000 and above	35	10.3
The Frequency of Visiting the Cafeteria	1	87	25.5
	2	96	28.2
	3	99	29.0
	4 and above	59	17.3
Average Monthly Food Expenditure at The Cafeteria	Less than RM100	100	29.3
	RM100 - RM200	94	27.6
	RM200 - RM300	107	31.4
	RM300 and above	40	11.7
Reasons to Consume Meals at This Cafeteria	It is the nearest food premise	114	33.4
	There is a variety of meals available	157	46.0
	The service is good	43	12.6
	The prices are cheaper	27	7.9

Tables 3, 4, 5, and 6 provide the descriptive analysis results, showcasing the mean, standard deviation, and ranking for each item within a single variable.

Table 3: Descriptive Analysis for Quality of Food and Beverages

No	Item	N	Mean	Std Dev	Rank
A1	Taste of the food and beverages.	341	3.93	1.185	5
A2	Display of the food.	341	3.94	1.172	4
A3	The diversity of displayed products.	341	4.21	1.224	1
A4	Freshness of products.	341	4.17	1.234	2
A5	Taste and flavor of products.	341	3.97	1.150	3
A6	Portion size	341	3.90	1.057	6

According to Table 3, the attribute with the highest mean score, 4.21, is "diversity of displayed products," indicating a strong positive response from respondents. This finding aligns with Embling et al., (2020) assertion that a diverse product range significantly enhances consumer satisfaction. On the other hand, the attribute with the lowest mean score, 3.90, is "portion size," suggesting a slightly less favorable perception among respondents. This observation is consistent with Lee and Kim's (2021) conclusion that smaller portion sizes often result in lower levels of consumer satisfaction.

Table 4: Descriptive Analysis for Quality of Service

No	Item	N	Mean	Std Dev	Rank
B1	The speed of service.	341	3.95	1.199	2
B2	Staff knowledge of the food and beverages sold.	341	3.85	1.061	4
B3	Friendly treatment by the cafeteria staff.	341	4.22	1.197	1
B4	An appropriate service approach.	341	3.95	1.068	2
B5	Cooperation of workers at the cafeteria.	341	3.88	1.026	3

As shown in Table 4, the attribute with the highest mean score, 4.22, is "friendly treatment by the cafeteria staff," reflecting strong positive feedback from respondents. This aligns with Brown and Davis's (2022) findings, which emphasize that positive interactions with staff significantly boost overall customer satisfaction. Conversely, the lowest mean score, 3.85, was recorded for "staff knowledge," indicating general satisfaction but highlighting some areas for improvement. This observation is supported by White and Green's (2022) suggestion that while staff knowledge is essential, its perceived effectiveness often varies among consumers.

Table 5: Descriptive Analysis for Quality of Setting

No	Item	N	Mean	Std Dev	Rank
C1	Comfort and sitting availability.	341	3.86	1.107	4
C2	Cleanliness and hygiene.	341	3.98	1.154	2
C3	Ambiance.	341	3.90	1.169	3
C4	Lighting.	341	4.05	1.210	1
C5	Convenience of service hours	341	3.90	1.287	3

According to Table 5, the highest mean score, 4.05, was recorded for "lighting," reflecting strong positive feedback from respondents. This finding aligns with Adams and Clark's (2021) observation that proper lighting significantly improves the overall atmosphere and satisfaction in dining environments. Meanwhile, the lowest mean score, 3.86, was recorded for "comfort and sitting availability," indicating a generally positive perception but with some room for enhancement. This is consistent with Ahmad Shariff et al. (2023) argument that while comfort is a key factor, it often demonstrates moderate variability in consumer feedback.

Table 6: Descriptive Analysis for Price and Value

No	Item	N	Mean	Std Dev	Rank
D1	Reasonable portion size.	341	2.74	0.730	4
D2	Affordable price charging.	341	2.74	0.730	4
D3	Food bought is value for money.	341	2.80	0.770	2

D4	Price charged based on the current market.	341	2.78	0.719	3
D5	The price of food is written clearly on the menu.	341	2.79	0.768	1

According to Table 6, the scores for all attributes indicate an average mean, reflecting the belief that the food purchased offers slightly less value than expected.

Table 7: Descriptive Analysis for Students Satisfaction (DV)

No	Item	N	Mean	Std Dev	Rank
E1	Overall satisfaction regarding the quality of food and beverages.	3 4 1	3.78	1.133	3
E2	Overall satisfaction regarding the service quality.	3 4 1	4.05	1.185	1
E3	Overall satisfaction regarding the setting.	3 4 1	3.89	1.033	2
E4	Overall satisfaction regarding the prices.	3 4 1	3.74	1.075	4

As presented in Table 7, the highest mean score for overall student satisfaction was recorded for "service" indicating strong overall satisfaction with service quality with 4.05. This aligns with Roberts and Williams's (2023) findings that high service quality is a crucial determinant of overall customer satisfaction in service environments. Conversely, the lowest mean score, 3.74, was for "prices," reflecting a generally positive but less robust perception of pricing. This observation is supported by Martin and Green's (2022) conclusion that while pricing is an important factor in satisfaction, it often yields moderate levels of consumer contentment.

Discussion

This study utilized multiple regression analysis to examine factors influencing university students' satisfaction with food services at Arked Meranti Cafeteria, UTM Skudai. The factors involved were quality of food and beverage, quality of service, quality of setting and price and value. The results of multiple regression analysis indicated that all independent variables significantly contribute to students' satisfaction (p-values < 0.05). As reported by Fonseca (2023), the standardized coefficient was used to compare the values for each of the different variables.

The findings of this study indicated that the quality of setting scored a high Beta Coefficient Value in determining the most influential variable that influences students' satisfaction with food service at Arked Meranti with .0331, followed by quality of service, quality of food and beverage and price and value.

Table 8: Regression Analysis for Factors Influencing Students' Satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.588	0.213		2.765	0.006
Quality of Food and Beverage	0.202	0.057	0.219	3.522	0.001
Quality of Service	0.318	0.061	0.316	5.234	0.001
Quality of Setting	0.309	0.055	0.331	5.601	0.001
Price and Value	0.008	0.60	0.005	1.39	0.001

a. Dependent Variable: Students' Satisfaction

It is interesting to note that while price and value are considered crucial factors in maintaining satisfaction and meal frequency, particularly with affordable pricing and perceived value in purchasing food (Smith et al., 2020), the current findings contradict this, highlighting the quality of setting as the most influential factor in shaping students' satisfaction at the Arked Meranti Cafeteria. According to Akbara et al. (2021), creating a welcoming atmosphere can build a sense of community and encourage relaxed interactions among students. Moreover, the quality of the dining environment significantly impacts overall satisfaction by enhancing the dining experience, achieved through aesthetically pleasing decor, convenient facilities, and a comfortable atmosphere tailored to students' preferences.

5. Conclusion and Recommendations

This study has successfully addressed the research objectives by examining the factors influencing university students' satisfaction at the Arked Meranti Cafeteria, UTM Skudai, Johor. All four independent variables, quality of food and beverages, quality of service, quality of setting, and price and value, were found to influence students' satisfaction. Among these, the quality of the setting emerged as the most influential factor. It can be concluded that the quality of the setting plays a critical role in shaping student satisfaction, as it creates a welcoming atmosphere and fosters a sense of belonging among students.

Nevertheless, this study focused on a single cafeteria at UTM Skudai, Johor. Future research could replicate this study across all cafeterias at UTM Skudai, Johor, to determine whether similar patterns emerge. Additionally, future studies could explore other variables, such as accessibility and price sensitivity, to provide a more comprehensive understanding of the factors influencing student satisfaction.

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An Overview of Financial Stress and Health Outcomes: The Moderating Role of Social Support

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Abstract: Investigating the population's health and well-being has been a topic of interest in recent years due to the remarkable growth. The Sustainable Development Goals (SDG) index indicates that Malaysian health and wellbeing issues remain significant challenges. Taking into account the important aspects, a PwC Asia Pacific survey from 2023 revealed that individuals' financial circumstances have been the primary cause of stress, which affects both their mental and physical health. This is also confirmed by the Bank Negara Malaysia (BNM) which reported that household members are currently experiencing financial stress with B40 income groups being particularly vulnerable to issues related to the increase in cost of living and loss of income. Therefore, the purpose of this study is to discuss the influence of financial stress on health-related outcomes and social support as the role that buffers the relationship. The role of social support, as suggested by previous research, as an element in reducing stress, may improve the emotional stability, mental and physical health of individuals. The present study offers valuable insights for employers and organizations to provide focused interventions in strengthening social support to improve employees' health and well-being.

Keywords: *Financial Stress, Mental Health, Physical Health, Social Support, B40 Household.*

1. Introduction

The Sustainable Development Goals (SDG-3) prioritizes achieving five pillars: (1) People, (2) Planet, (3) Prosperity, (4) Peace, and (5) Partnership to promote good health and well-being and ensuring healthy lifestyles for all populations, regardless of their age. However, achieving health objectives and progressing towards SDG-3 are alarmingly threatened by the global crisis (Lee & Kim, 2021). Following the related economic and global health crises, the situation has become more dire, leading to financial challenges for individuals and households. The occurrence has resulted in the proportion of struggling households becoming more vulnerable to future losses (Magli et al., 2021).

Given this fact, Ismail et al. (2023) stated that the ability of Malaysia's B40 households to meet their necessities is pressured by the rising cost of living. As supported by Bank Negara Malaysia (BNM, 2022), the B40 group is experiencing financial stress due to the increasing cost of living. Likewise, Malaysia's Credit Counselling and Management Agency (AKPK, 2023) revealed that the main causes of financial stress include high costs of living, low income, and poor savings. In a similar context, the likelihood of suffering high financial stress is negatively associated with income level (Simonse et al., 2022; Prakash et al., 2022). O'Neill et al. (2006) stated that the subjective phenomenon of financial stress arises from inequalities in sources of income and consumption patterns to meet one's demands and expectations. Ryu and Fan (2023) emphasized the argument that individuals with financial stress will suffer from continuous negative effects. Undoubtedly, financial stress is a contributing factor that influences health, leading to several detrimental effects on one's mental and physical health. Consequently, it is important to address the issue with a deeper understanding.

Among the factors that can lead to financial stress include high levels of debt, lack of financial knowledge, unexpected life events (Ali, 2019), high cost of living, as well as job instability. A study conducted by the Social Well-being Research Centre (SWRC) University Malaya in 2019 found that the main factor contributing to financial stress was uncontrolled spending (Adnan et al., 2021). According to the PwC Asia Pacific (2023) of Malaysia's findings, a percentage of the respondents 14% faced difficulties in making monthly bill payments, while 47% struggled to make ends meet. Remarkably, 57% of the respondents identified financials as their main source of stress. With the focus on prioritizing health and well-being, the survey highlighted that financial stress negatively contributes to impairing one's mental and physical health with 55% and 44% respectively (PwC Asia Pacific, 2023). As mentioned by Lee and Dustin (2021), financial stress is typically associated with poorer outcomes.

Notwithstanding, the UCSI Pool Research Centre (UCSI, 2023) confirmed that 87% of Malaysians are experiencing financial stress. A National Health and Morbidity Survey (NHMS) further demonstrated that the percentage of individuals suffering from mental health issues is substantially higher among households with B40 incomes (NHMS, 2015; 2019). Businelle et al. (2013) seconded that individuals with lower socioeconomic status are more vulnerable to high levels of stress. This is because individuals, specifically among the B40 households, are frequently experiencing more financial pressures and insufficient resources to manage them effectively. Individuals experiencing financial stress are more prone to struggle with anxiety, depression, sleep disturbances, and other mental health issues that lead to deteriorating physical health which the situation could exacerbate their financial difficulties (Ali, 2019; Keith & Steffan, 2018).

The World Health Organization (WHO) has identified that the leading causes of global illness are mental disorders and psychosocial disabilities including anxiety and depression, with an increase of 18% between 2005 to 2015, indicating the number of people globally suffering from mental illness has increased from 300 million to 970 million in 2019 (WHO, 2017; 2019). Accordingly, a study conducted by Odani et al. (2022) revealed poor mental and physical health, accounting for 18.5% and 15.5% respectively, as a consequence of lack of money with 9.6% and income loss with 25.0%. Following the recent data, the prevalence of individuals with depression has increased to 26.9% from 18.3% in 2017 (NHMS, 2022). Additionally, living in poor and challenging financial circumstances has the potential to worsen one's mental and physical well-being (Bialowolski et al., 2021) and even worse the possibility of suicidal ideation, mental illness, and severe psychological distress (Nigatu et al., 2023).

Furthermore, existing literature has highlighted the noteworthy influence of financial stress on health outcomes. Interestingly, research has also indicated that the relationship between financial stress and health outcomes is arguably moderated by the presence of social support. Recently, there has been highlighted the notion of social support in improving individuals' mental, physical and emotional well-being, though the fundamental mechanisms behind this relationship remain unclear (McDonnell, 2014; Acoba, 2024). Therefore, the role of social support in the relationship between financial stress and health outcomes is an important aspect that warrants further investigation. It is believed that social support buffers as a protection against the negative consequences of perceived uncertainty on emotional exhaustion (Ersoy et al., 2023) and in preventing the adverse psychological and physiological consequences of stress (Nandi et al., 2008). While most studies have concentrated on the negative effects of financial stress, a more comprehensive understanding is required of how social relationships, in this context, social support can promote and enhance positive health and well-being, rather than only focusing on mitigating the adverse outcomes.

Addressing health-related well-being is an ongoing subject that has garnered attention due to the alarming increases over the past years. The relationship between financial stress and health is intricate, influenced by various factors that influence its magnitude and direction. Financial stress has been recognized as a significant health risk factor, with a plethora of research highlighting the substantial influence of financial stress on health outcomes, specifically on mental and physical well-being. Nevertheless, the role of social support can be essential in reducing the negative effects of financial stress on health outcomes and directly assist individuals in better coping with the consequences. As such, this paper aims to explore the moderating role of social support on the relationship between financial stress and health outcomes.

2. Health Outcomes

Generally, a person's state of health is vast. According to WHO (2024), "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". The central aspects of health outcomes highlighted in this study are mental health and physical health.

Mental Health

Individuals struggling with mental health disorders that lead to depression and anxiety are evident at several phases of life, and it is further exacerbated by one's financial stress. As claimed by French and Vigne (2018), research on anxiety and depression offers the most compelling evidence that financial stress negatively impacts one's health. Predominately, researchers have described mental health from various perspectives, recognizing it as the most important concern of health and well-being. According to WHO (2022), "mental health is a state of mental well-being that allows people to manage life's stresses, reach their full potential, learn and work productively, and contribute to the community".

Mental health is divided into three primary dimensions including depression, anxiety and stress (Samsudin et al., 2024; Witteveen & Velthorst, 2020) which are often referred to as psychological distress (Zailani et al., 2022). Mental health that is often followed by psychological distress (Zailani et al., 2022) is a state that is characterized by psychological as well as emotional disabilities and a mental condition reflected by extreme distress, dysfunctional impairment of the likelihood of self-harm. Subsequently, the comprehension of mental health extends beyond the absence of mental disorders and remains a multifaceted phenomenon.

An individual's general health and quality of life are significantly influenced by their state of mental health. The Ministry of Health Malaysia (MOH, 2016) reports that mental health disorders have been identified in approximately 450 million individuals worldwide, with 4.3% attributed to depression. In particular, data from the National Health and Morbidity Survey (NHMS, 2015) revealed that about 1 in 3 Malaysians, whereby the percentage of individuals with mental health problems and depression is 29.2% among those aged 16 years and above, and 2.3% among those from low-income families (MOH, 2016; 2019). Furthermore, Relate Mental Health Malaysia (RELATE) reported a significant increase in poor mental health conditions among an estimated 4.57 million working individuals, contributing 10.7% in 2005 to 29.2% in 2015 (Chua, 2020).

Mental health in Malaysia is recognized as one of the main causes of disability and health loss (Raaj et al., 2021). The prevalence of mental health issues is one of the costliest burdens (Chan et al., 2021) affecting more than the well-being of individuals and households (Samsudin et al., 2024), to a greater reaching impact on organizations and government (Dimoff et al., 2019; Jansson & Gunnarsson, 2018). The likelihood of developing mental health disorders among individuals, families, and communities (WHO, 2022) is heightened in the aspect of financial stress. Balakrishnan et al. (2023) in their study found that Malaysians had higher incidences of stress with 30.6%, anxiety with 55.1%, and depression with 59.2%. Remarkably, 25% of people worldwide suffer from mental illness, making it one of the leading causes of disease (Zailani et al., 2022; Cheah et al., 2020). Ismail et al. (2020) revealed that among Malaysian medical practical students, those who reported experiencing stress, anxiety, and depression regularly were found to be 29.7%, 39.9%, and 26.2% respectively. Bloom et al. (2012) pointed out that mental health disorders have recently been identified as an alarming global public health concern due to their influence on physical well-being and their significance for social and economic aspects.

Physical Health

The Ministry of Primary Industries (MPI) defines stress as a normal body response to events that cause an individual to feel intimidated or disappointed (MPI, 2016). Currently, public health concerns in Malaysia are related to psychological distress, characterized by both mental and physical symptoms (Chan et al., 2021; Arvidsdotter et al., 2016). Among the negative consequences of psychological distress are deterioration of physical well-being and higher healthcare costs (Chan et al., 2020; Wee et al., 2019). Generally, it has been claimed that the inability to meet basic demands is the factors that influence financial stress, triggering mental and physical health issues (Afifi et al., 2018; Valentino et al., 2014).

Predominately, stress and its triggering factors can have detrimental effects on one's physical and mental well-being (Valencia-Florez et al., 2023; Fink, 2016). In addressing the issues at hand, mental and physical health are related to one another. As highlighted by Sam et al. (2024), the key indicator in evaluating mental health is physical health. The chance of developing mental health disorders increases the possibility to encounter physical health problems, and vice versa (Mental Health Foundation, 2022). This is due to the interconnectedness between our bodies and thoughts, which govern the way one feel, think, and react to situations. Besides, depression-related stress has negative consequences on a person's mental and physical health that frequently deteriorate their health conditions (Sam et al., 2023).

Nevertheless, one typical way to assess a person's physical health is by understanding the symptoms of financial stress. Financial challenges have been associated with several physical and mental disorders, including diabetes, cancer, depression, long-term lung disease, and drug misuse (Richardson et al., 2013; Ridley et al., 2020; Simonse et al., 2022). Khan et al. (2022) emphasized that individuals who are financially stressed are more susceptible to various health issues such as heart disease, physical pain, sleep disorders, diabetes, and other related health issues. Likewise, Bialowolski et al. (2021) affirmed that individual struggling financially worsens their physical health, which subsequently triggers the stress hormone (cortisol). A high risk of cardiovascular disease, obesity, and poor general health are among the physical health outcomes resulting from financial stress (Ali, 2019; Weida et al., 2020). Keith and Steffan (2018) agreed that financial stress can lead to negative health outcomes including poor mental health, sleep disturbances, and deterioration in general physical health.

3. Impact of Financial Stress

Financial stress arises from insufficient resources, especially income, which makes it difficult for individuals to fulfill their commitments, thereby creating high pressure and challenges in managing their financial demands (Doloh & Redzuan, 2023; Ismail & Zaki, 2019). Stress is not constantly bad and negative. A moderate amount of stress may foster development and assist in managing crises and challenges. However, when financial stress reaches a certain point in time, an individual may suffer from mental and physical well-being. As supported by Kim et al. (2006), unmanageable stressors can seriously compromise an individual's well-being, despite the potential for positive outcomes.

Financial stress is the result of ongoing financial and economic pressure, resulting from the changing financial situation, poor financial management, and lack of resources to achieve their present and future goals, which directly puts individuals at risk of mental illness and physical deterioration (Jayasekara et al., 2020; Ozyuksel, 2022). Individuals have consistently reported that their finances are the main source of stress in their lives. According to Moon et al. (2023), previous global economic and health crises have contributed to financial stress. As previously mentioned, financial stress is the state of mental, physical and emotional strain ignited by external environments including loss of employment, high financial commitments, and insufficient resources (e.g. money to pay bills, rent, groceries, education, and medical care) that pressures individuals, particularly among households, and thereby lead to anxiety and depression (Valentino et al., 2014; Afifi et al., 2018; Amanat et al., 2022; Simonse et al., 2022).

A growing body of research indicates that individuals experience financial difficulties that impair their mental and physical well-being. Considering that, financial stress may create an endless cycle of poor health and worse financial difficulties. In essence, high financial stress lowers financial satisfaction, while positively, lower financial stress and anxiety can boost psychological resilience and work performance (Joo & Grable, 2014; Ozyuksel, 2022). Additionally, existing research demonstrated that one of the elements that lead to poor financial well-being is financial stress (Joo & Grable, 2004; Olasehinde & Aigbavboa, 2018). Indeed, financial stress is often associated with worse outcomes that hurt a person's psychological well-being and quality of life (Kim & Garman, 2003; Lee & Dustin, 2021). Financially stressed individuals are more prone to engage in poor lifestyles and behaviors such as lack of physical activity, unhealthy eating habits, and substance abuse (Ali, 2019; Weida et al., 2020; Keith & Steffan, 2018).

Well-documented evidence from earlier studies indicates the influence of financial stress can significantly impact both individuals' psychological and physiological, contributing to a range of negative outcomes. In the aspect of it, financial stress has been associated with a higher incidence of depression, anxiety, and other mental health conditions. From a physiological perspective, financial stress is associated with several detrimental health consequences such as cardiovascular disease, chronic pain, as well as an overall decline in life expectancy. Hence, the emergence of mental and physical health issues appears to be significantly influenced by financial stress.

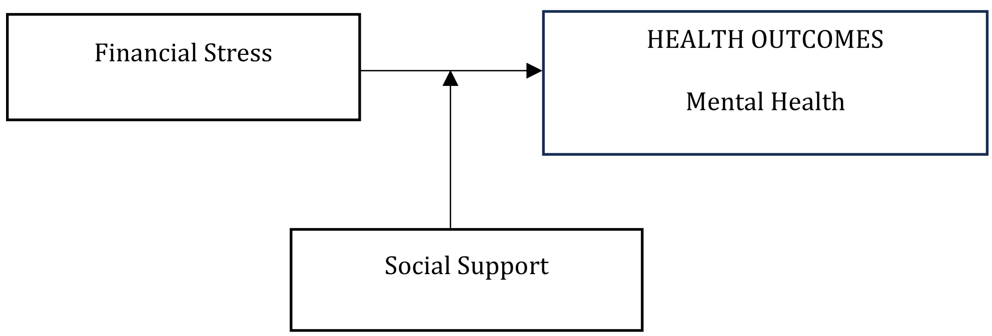
4. Role of Social Support

While the negative impacts of financial stress on health outcomes are well established, it is important to further elucidate the factors that buffer against the deleterious effects. One of the contributing factors that has received increasing attention is the role of social support. The element of social support has been acknowledged as an influential moderator in analyzing the relationship between financial stress and health outcomes (Cohen & Wills, 1985). Social support is a positive interpretation that is capable of fostering subjectivity and pleasure in individuals (Thoits, 2011; Platis, 2015). According to Shirey (2004), social support is an effective approach to lessen, maintain, and protect individuals' mental and physical health from the adverse effects of stress. Nevertheless, as asserted by Javadian (2020), the lack of social support would result in several issues that would immediately impair the quality of work performance.

Generally, social support can be broadly classified into four categories that offer individuals both emotional and practical assistance, such as support from family, friends, colleagues, and supervisors (Wadsworth, 2003; Annink, 2016). Among all, family support is the most important type of social support (Sobol et al., 2019). This is because a healthy psychological state provided by the family can reduce the emotional demands of an individual's work (Zhang et al., 2019). Moreover, social support represented through an intimate relationship and feeling of belongingness allows individuals to attain the emotional, instrumental, and informational resources needed to effectively manage financial challenges.

Subsequently, Yasin and Dzulkifli (2010) agreed that social support enhances individuals' stress management and develops effective coping strategies to overcome challenging situations. In comparing the negative and positive outcomes, the presence of social support can lessen the adverse effects of stress, depression, anxiety, isolation, and poor quality of life, while promoting the positive aspect of satisfaction (Albrecht & Goldsmith, 2003). Stanley and Sebastine (2023) mentioned that social support assists in balancing individual personal and professional life at the same time, can reduce the negative impacts of burnout. Foy et al. (2019) found that lower levels of stress are correlated to higher levels of social support. Individuals with higher social support exhibit better mental and physical health outcomes. Considering that, social support is a valuable resource that can assist individuals to effectively manage and organise their financial issues (Keith & Steffan, 2018; Ali, 2019).

Figure 1: Conceptual Framework (adapted from: Aneshensel, 1992)



5. Conclusion and Recommendations

In today's growing concern on the issues of mental and physical health, financial stress is gaining more attention as researchers seek to understand its influence on health outcomes. Considering that, the influence of financial stress extends beyond individuals and households to organizations and government.

Financial stress is proven to be the underlying cause of mental and physical health issues. It is essential to understand how social relationships can buffer the adverse effects of financial stress on health outcomes to develop more comprehensive strategies to address this public health concern. All things considered, the body of research on financial stress, health outcomes, and the moderating role of social support emphasizes how critical it is to develop a holistic approach to managing the complex interplay between these factors. Therefore, interventions targeted at lowering financial stress and promoting social support could be particularly effective to improve health outcomes for individuals and communities.

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Inclusive Workplace: A Conceptual Study of Workers with Disabilities

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Abstract: This article explores the challenges and opportunities associated with creating an inclusive workplace for workers with disabilities. Besides, it examines key barriers, such as physical and technological accessibility, organizational culture, and leadership attitudes, while also identifying opportunities for positive change through inclusive practices, policies, and innovation. The study aims to provide a comprehensive understanding of the factors influencing the inclusion of workers with disabilities and offer actionable insights for organizations seeking to foster a more inclusive environment.

Keywords: *Accessibility, Inclusive Leadership, Inclusive Workplace, Organisational Culture, Workers with Disabilities*

1. Introduction

In today's dynamic and varied workforce, the concept of inclusion has garnered much focus as businesses endeavor to establish settings that both accommodate and embrace differences. Inclusive workplaces are workplaces where all employees, irrespective of their backgrounds or abilities, are regarded, respected, and enabled to contribute to the organization's success. As businesses increasingly globalize and connect with each other, the desire for various perspectives and abilities has grown stronger, rendering inclusion not merely a moral responsibility but also a strategic necessity. Thus, the inclusion of employees with disabilities has become a significant aspect of diversity.

Subsequently, inclusion in the workplace significantly affects organizational effectiveness, employee satisfaction, and social equity (Kiradoo, 2022). Research continuously shows that diverse and inclusive teams demonstrate more innovation, adaptability, and efficacy in problem-solving (Anand & Sevak, 2017). Organizations that cultivate an inclusive culture usually demonstrate increased employee engagement and happiness, resulting in improved retention rates and overall productivity. Furthermore, inclusive workplaces advance greater societal objectives by fostering equality and reducing systemic obstacles encountered by marginalized groups, including individuals with disabilities. Organizations can significantly contribute to the advancement of social justice by ensuring equitable access to opportunities and resources for all individuals.

Nonetheless, despite the increasing acknowledgment of the need for inclusion, employees with disabilities persistently face considerable obstacles in entering, succeeding, and progressing within the workplace. The challenges are diverse, encompassing physical and technological challenges along with cultural and attitudinal biases that hamper the full involvement of workers with disabilities (Garrick, Johnson, & Arendt, 2024). In addition, the absence of sufficient support structures and inclusive policies increases these challenges, resulting in the marginalization and underutilization of several individuals in the workforce. The continuance of these issues highlights the necessity for a comprehensive understanding of the obstacles to inclusion and the establishment of effective measures for overcoming them.

This article aims to explore the obstacles and opportunities associated with implementing inclusive workplaces for individuals with disabilities. Also, this paper attempts to clarify how organizations can cultivate conducive environments for the thriving of all employees, including individuals with disabilities, by analyzing the current literature and recommending best practices. This article will investigate the influence of leadership, organizational culture, and policy on promoting inclusion and assess the possible advantages of embracing a more inclusive approach.

This paper begins with a literature review that delineates the principal concepts, and philosophies, relevant to workplace inclusion for individuals with disabilities. The subsequent discussion will address the persistent obstacles encountered by workers with disabilities, utilizing empirical research and case studies as references. The study will thereafter examine the potential for organizations to improve inclusion, encompassing strategies to overcome obstacles and adopt best practices. Lastly, the study will ultimately finish with a discussion of the implications for organizational leadership and suggestions for further research.

2. Literature Review

Understanding Disability and Inclusion within the Workplace

Definitions of Disability

Disability is a complicated and multidimensional term that has developed over time. Historically, disability was perceived through a medical perspective, regarded as a deficit or impairment inherent to the individual. This medical model prioritizes diagnosis, treatment, and rehabilitation, frequently framing the individual with a condition as requiring remedy or care. This viewpoint has faced significant criticism for its limited scope and its propensity to marginalize individuals by reducing their identities to mere deficits.

The social model of disability focuses on the emphasis from the individual's disabilities to the societal barriers that are established. This paradigm posits that disability is not an intrinsic trait but a consequence of the interaction between individuals and their surroundings. Barriers such as physical, technical, attitudinal, or systemic are seen as the primary obstacles that impair individuals (Teborg, Hünefeld, & Gerdes, 2024). Consequently, eliminating these barriers can significantly enhance the involvement and inclusion of people with disabilities in many facets of life, including employment.

Furthermore, the human rights model expands on this by conceptualizing disability as a matter of social justice and human rights. This approach emphasizes the significance of equality, non-discrimination, and full social participation. In addition, it promotes the elimination of all discrimination and the implementation of reasonable accommodations to guarantee that individuals with disabilities can access the same rights and opportunities as others (Garrick, Johnson, & Arendt, 2024; Padkapayeva, Posen, Yazdani, Buettgen, Mahood, & Tompa, 2017). This point of view aligns with international frameworks like the United Nations Convention on the Rights of Persons with Disabilities (CRPD), which emphasizes the significance of accessibility, inclusion, and the acknowledgment of the intrinsic dignity and value of individuals with disabilities (Grue, 2019).

Definitions of Inclusion

Workplace inclusion is a comprehensive and growing concept that extends beyond the mere physical presence of various individuals. Inclusion involves establishing a working environment in which all employees are valued, respected, and enabled to realize their full potential (Garg & Sehgal, 2024). This includes not only involving individuals with disabilities in employment but also guaranteeing that the organizational culture, rules, and practices are structured to facilitate their full engagement and advancement.

Inclusion is frequently contrasted with diversity, which represents the existence of contrasts within a specific context. Diversity pertains to representation, but inclusion underscores the quality of experience and the degree to which varied persons can engage fully and have a sense of belonging. Effective inclusion necessitates a continuous dedication to recognizing and mitigating the distinct demands and obstacles encountered by all groups, including employees with disabilities.

Integrating Disability and Inclusion in the Workplace

To effectively advocate for the inclusion of employees with disabilities, it is important to include these criteria in organizational procedures. This involves recognizing disability as an aspect of diversity while carrying out the principles of social and human rights in workplace policies and practices (Anand & Sevak, 2017). Organizations must have a comprehensive strategy that addresses the requirements of employees with disabilities and the systemic obstacles that limit their full involvement. This may involve the implementation of accessible technology, provision of reasonable accommodations, nurturing of an inclusive organizational culture, and assurance of leadership's commitment to encouraging inclusion (Gould, Harris, Mullin, & Jones, 2020).

Therefore, organizations can enhance their understanding of disability and inclusion in the workplace, thereby formulating plans that not only conform to legal mandates but also foster a genuinely inclusive atmosphere conducive to the flourishing of all employees.

Challenges to Create an Inclusive Workplace

Designing an inclusive workplace for employees with disabilities is a challenging endeavor that necessitates addressing many issues. The main obstacles to inclusion, include physical accessibility, technology accessibility, organizational culture, attitudinal barriers, inclusive leadership, and economic and limited resources.

Physical Accessibility

A significant issue of workplace inclusion is the inadequate physical infrastructure to support employees with disabilities. Many workplaces continue to lack basic facilities such as ramps, elevators, and accessible restrooms, which are important for allowing individuals with physical disabilities to move around their work environment independently and safely (Anand & Sevak, 2017). In the absence of basic accommodations, employees with disabilities might experience difficulties or be unable to access areas of the workplace, consequently restricting their abilities to engage fully in job-related activities (Padkapayeva et al., 2017).

In addition, physical barriers impede movement and foster a sense of exclusion among employees with disabilities. When employees face inaccessible environments, they may experience exclusion or devaluation, resulting in reduced morale and participation (Teborg, Hünefeld, & Gerdes, 2024). Moreover, insufficient physical accessibility can hinder an employee's capacity to execute their duties proficiently, resulting in lost opportunities for career promotion and professional development (Huyck et al., 2021; Anand & Sevak, 2017). Thus, to establish fully inclusive workplaces, firms must prioritize the removal of physical obstacles and ensure that their infrastructure is built with accessibility as an essential consideration.

Technological Accessibility

In the digital era, technology accessibility is now recognized as an important component of workplace inclusion. Nonetheless, numerous businesses continue to have challenges in ensuring that their software, websites, and digital tools are accessible to all employees, including individuals with disabilities. Inaccessible technology can pose significant challenges to communication, productivity, and inclusion, especially in remote work settings where digital tools serve as the primary method of interaction (Othman & Al Mutawaa, 2023).

Websites and software that lack compatibility with screen readers or other assistive technology might hinder employees with visual impairments from accessing important information or executing important tasks. Likewise, digital tools devoid of captioning or alternative text features can marginalize employees with hearing difficulties or cognitive disabilities from fully engaging in meetings, training sessions, or collaborative endeavors (Royall et al, 2021). The lack of accessible technology can result in irritation, diminished productivity, and a sense of isolation for employees with disabilities (Raja, 2016). Therefore, organizations need to make sure that their digital resources are designed and maintained with accessible considerations, according to established criteria and best practices (Gould et al., 2020).

Organizational Culture

Organizational culture significantly influences the experiences of employees with disabilities. Cultures lacking inclusivity, characterized by unconscious prejudices, stigmatization, and exclusionary behaviors, can profoundly affect the morale, job satisfaction, and retention of employees with disabilities (Garg & Sehgal, 2024). In many organizations, unfavorable attitudes and misconceptions regarding disability endure, resulting in both subtle and overt discrimination that can hinder the inclusion of employees with disabilities (Garrick, Johnson, & Arendt, 2024; Pure, Kaufman-Scarborough, Rabinowitz, & Roth, 2018).

Subsequently, workers with disabilities may encounter assumptions regarding their ability or be excluded from important tasks or decision-making processes (Teborg, Hünefeld, & Gerdes, 2024). Exclusionary behaviors can foster a hostile or unwelcoming environment, hindering workers with disabilities from feeling appreciated or supported. Moreover, low morale and job dissatisfaction may result in increased turnover rates among employees with disabilities, denying businesses of important talent and varied viewpoints (Teborg, Hünefeld,

& Gerdes, 2024). Therefore, to foster an inclusive organizational culture, it is important for businesses to actively confront biases, enhance awareness, and establish policies that advocate for diversity and inclusion.

Attitudinal Barriers and Inclusive Leadership

Leadership attitudes and behaviors are essential in either sustaining or demolishing challenges to inclusion. Attitudinal challenges, including negative attitudes toward disability and insufficient commitment to diversity, might hinder the implementation of inclusive practices and policies. Leaders who are apathetic or antagonistic toward inclusion may neglect to promote accessibility, encourage accommodations, or confront discriminatory behaviors inside their organizations (Padkapayeva et al., 2017).

In contrast, inclusive leadership is essential for cultivating a culture that prioritizes diversity and inclusion. Leaders dedicated to inclusion can establish the organizational culture by demonstrating actions that foster respect, equity, and belonging. Inclusive leaders diligently strive to discover and eliminate barriers to inclusion, foster chances for employees with disabilities to be successful, and ensure that all perspectives are acknowledged and esteemed. By advocating for inclusion at every organizational level, leaders can effectuate significant change and foster a more supportive and equal workplace for all individuals.

Economic and Resource Constraints

Economic and resource limitations provide significant challenges to the implementation of inclusive policies in the workplace. This is because many businesses, especially small and medium-sized enterprises, may find it challenging to dedicate the requisite financial resources for accessibility enhancements, assistive technologies, or specialized training programs (Royall, McCarthy & Miller, 2021). Additionally, the expenses related to implementing physical alterations to structures, acquiring accessible software, or offering reasonable accommodations might be burdensome for certain organizations (Padkapayeva et al., 2017).

When inclusion is deprioritized due to financial constraints, both companies and employees experience detriment. Neglecting to invest in inclusiveness can lead to lost possibilities for innovation, less employee engagement, and possible legal consequences for businesses. In addition, the absence of inclusive policies for workers with disabilities can result in restricted employment possibilities, reduced income, and a worse quality of life (Suresh & Dyaram, 2020). To address these challenges, organizations must acknowledge the enduring advantages of inclusion, including increased productivity, improved employee retention, and a more favorable organizational reputation, while pursuing innovative solutions to resource constraints, such as utilizing government incentives or partnering with disability advocacy groups.

Thus, establishing an inclusive workplace for employees with disabilities necessitates addressing various challenges, including physical and technological challenges, organizational culture, and financial limitations. By understanding these challenges and proactively addressing them, organizations may foster cultures in which all employees, including individuals with disabilities, are successful and achieve their maximum potential.

3. Opportunities for Enhancing Inclusion

Establishing an inclusive workplace for employees with disabilities involves challenges and significant opportunities. Organizations may cultivate settings conducive to the development of all employees by embracing technological advancements, enacting inclusive policies, promoting inclusive leadership, facilitating cultural transformation, and acknowledging the economic advantages of inclusion. This section examines these opportunities comprehensively.

Technological innovations provide unprecedented opportunities to improve workplace accessibility and inclusion for workers with disabilities. Innovative technologies, including assistive devices, artificial intelligence (AI), and accessible software, are revolutionizing how individuals with disabilities engage with their work environments and implement their job responsibilities (Shuford, 2023).

Assistive technologies, such as screen readers, voice recognition software, and ergonomic equipment, are essential tools that facilitate the full participation of people with disabilities in the workplace (Shuford, 2023;

Anand & Sevak, 2017). Screen readers facilitate navigation of digital information for those with visual impairments, whereas speech recognition software empowers those with mobility disabilities to operate computers and other devices using voice commands. These tools not only augment productivity but also enable individuals with disabilities to work more autonomously.

Artificial intelligence and machine learning technologies are significantly contributing to the improvement of workplace accessibility. For instance, AI-driven systems can automate repetitive processes, deliver real-time translation and transcription services, and provide customized assistance tailored to specific requirements (Gupta & Khang, 2024). Moreover, AI-driven captioning systems enhance accessibility for employees with hearing impairments during meetings and presentations, while predictive text and voice assistants aid individuals with cognitive difficulties in executing intricate tasks.

Next, numerous organizations have effectively adopted these technologies to foster more inclusive work environments. For instance, Microsoft has included AI-enhanced accessibility tools in its Office 365 suite, facilitating collaboration and communication for employees with disabilities. Also, IBM has developed accessible AI solutions that assist organizations in creating more inclusive digital experiences for their employees and consumers. These instances illustrate the capacity of technology to foster inclusion and enhance the employment experience for those with disabilities.

Inclusive leadership and specialized training are important elements of a strategy to foster a culture of inclusion. Leaders are essential in establishing the organizational culture, exemplifying inclusive behaviors, and promoting activities that foster diversity and inclusion. In addition, leaders who intentionally exemplify inclusive leadership behaviors foster a culture in which all individuals may realize their full potential, promote learning organizations, and enhance workforce interactions to attain strategic objectives (Simmons & Yawson, 2022).

Fostering inclusive leadership practices requires empowering leaders with the information and skills necessary to better understand the issues encountered by employees with disabilities and to support their inclusion. This can be accomplished by training programs that emphasize subjects such as implicit bias, disability awareness, and inclusive decision-making (Royall & Miller, 2022).

Moreover, maintaining inclusive leadership necessitates continuous dedication and reinforcement. Organizations can attain this by integrating inclusion into their leadership development initiatives, establishing diversity and inclusion objectives for leaders, and ensuring accountability for progress (Pure et al., 2018). Besides, establishing a feedback mechanism that allows employees to share their experiences and contribute insights on inclusion initiatives can assist executives in remaining attuned to the requirements of their workforce.

Subsequently, transformations in organizational culture that prioritize diversity and inclusion are vital for establishing a sustainably inclusive workplace. Cultural change entails altering the key principles, regulations, and behaviors that influence an organization's operations and interactions with its employees.

An effective strategy for cultural transformation is the execution of diversity and inclusion activities that involve employees across all tiers of the business. Procter & Gamble (P&G) has implemented an extensive diversity and inclusion strategy encompassing employee resource groups (ERGs), inclusive marketing initiatives, and ongoing education on diversity issues (Jalal, 2024). These measures have enabled P&G to foster a more inclusive culture in which workers feel empowered to present their authentic selves at work.

Next, the economic advantages of an inclusive workplace are significant and thoroughly demonstrated. Organizations that emphasize inclusion typically experience improved innovation, productivity, and market growth, resulting in better financial performance and a competitive edge. In addition, inclusion can positively influence employee productivity and satisfaction. When employees perceive themselves as appreciated and included, they are prone to exhibit engagement and motivation, resulting in elevated productivity levels and reduced turnover rates. This can lead to substantial cost reductions for businesses and enhanced overall performance.

Therefore, the potential advantages for improving workplace inclusiveness are extensive and diverse. Organizations can cultivate settings conducive to the flourishing of all employees, including those with disabilities, by adopting technological advancements, enacting inclusive policies, promoting inclusive leadership, facilitating cultural transformation, and acknowledging the economic advantages of inclusion.

4. Discussion

This research study examines various aspects of disability and inclusion in the workplace, highlighting the challenges to establishing an inclusive environment and opportunities for improving inclusion. The combination of these studies indicates that achieving job inclusion for those with disabilities is a broad, yet crucial, endeavor.

The main challenges to establishing an inclusive workplace include physical and technological challenges, non-inclusive organizational cultures, attitudinal biases, and resource limitations. Physical obstacles, including insufficient infrastructure, restrict the mobility and involvement of workers with disabilities, whereas technology inaccessibility impedes communication and productivity, especially in remote work settings. Organizational culture and leadership attitudes significantly influence the maintenance or dismantling of barriers, as non-inclusive cultures and prejudiced leadership can result in the discrimination of employees with disabilities (Garrick, Johnson, & Arendt, 2024). Moreover, monetary and resource limitations could hinder the implementation of essential accommodations and inclusive policies (Padkapayeva et al., 2017).

Conversely, the opportunities for improving inclusion are significant and provide a pathway for groups dedicated to diversity and equity (Kiradoo, 2022). Technological advancements, including assistive devices and AI-driven technologies, can markedly enhance accessibility and enable employees with disabilities to fully engage in their organizations. Furthermore, effectively implemented inclusive policies establish a robust basis for transformation by formalizing commitments to inclusion and ensuring equitable chances for all employees (Suresh & Dyaram, 2020). In addition, leadership and training are essential, since inclusive leadership may facilitate cultural transformation and promote an environment at work that values and supports all employees (Gould et al., 2020). Finally, the economic advantages of inclusion — such as enhanced creativity, productivity, and market expansion — emphasize the necessity of prioritizing inclusion as a strategic corporate goal.

Implications for Practice

The research findings yield several significant implications for HR experts, managers, and policymakers, all of whom are essential in promoting an inclusive workplace. HR professionals must prioritize inclusive recruitment and retention initiatives. This entails engaging varied talent pools, especially persons with disabilities, through accessible job advertisements and procedures during the recruitment process. In addition to recruitment, HR must provide continuous support to facilitate career progression as well as retention for workers with disabilities (Collier, 2016). Furthermore, the creation and implementation of policies should be prioritized, with Human Resources supporting the establishment and enforcement of regulations that provide equitable access to suitable accommodations for all staff members. Promoting an inclusive workplace culture necessitates the implementation of training programs and the accountability of leadership for their dedication to disability inclusion (Padkapayeva et al., 2017).

Next, managers have an important responsibility in fostering inclusion. Commitment from leadership is crucial; managers need to demonstrate inclusive behaviors, confront biases, and assist employees with disabilities (Gould et al., 2020). Also, providing training in understanding disabilities and inclusive leadership enables managers to cultivate supportive work environments more effectively. In addition, they must accommodate the technology requirements of employees with disabilities by supplying essential tools and resources, including assistive technologies, and guaranteeing that all digital tools and platforms are accessible (Gould et al., 2020).

Moreover, policymakers can effect progressive change by enacting laws that require workplace accessibility and inclusiveness. Monetary incentives and subsidies for organizations that make investments in accessible technology and infrastructure might further motivate organizations to prioritize inclusivity (Suresh & Dyaram, 2020). Policymakers may significantly contribute to the promotion of best practices by identifying and spreading successful inclusion efforts across all sectors, thus cultivating a culture of ongoing enhancement in disability inclusion.

Future Research Directions

This research provides an in-depth understanding of existing challenges and opportunities for workplace inclusion; however, numerous areas require further research to improve our knowledge and enhance methods.

A significant area for future research is the role of developing technologies. Technologies like artificial intelligence (AI), virtual reality (VR), and machine learning possess the capacity to transform workplace participation. Future research may investigate the application of these advances to develop more accessible working conditions and improve productivity for employees with disabilities. In addition, understanding the implications and potential advantages is crucial for designing inclusive workplaces of the future.

A crucial aspect is the necessity for longitudinal studies on inclusion initiatives. Research examining the long-term impacts of inclusion initiatives on organizational success, employee satisfaction, and career advancement for those with disabilities might provide critical insights. These studies would assist organizations in assessing the efficacy of their methods and provide ongoing transformation, to assure enduring enhancements in inclusion.

Finally, research examining global perspectives on inclusion is essential. The cultural and legislative frameworks around disability inclusion differ significantly among locations. Through the analysis of disability inclusion worldwide, researchers identify effective best practices that are suitable for various cultural contexts and adaptable to different legal systems. This would provide significant information for organizations seeking to adopt more inclusive practices across various areas.

In summary, the endeavor to establish inclusive workplaces for those with disabilities is simultaneously challenging and satisfying. By addressing the identified challenges and utilizing the available opportunities, businesses may cultivate settings in which all employees, irrespective of their ability, can achieve success. The implications for practice emphasize the vital roles of HR professionals, managers, and governments in facilitating this transformation. As the area of inclusion grows, future research will be essential in revealing new insights and directing organizations in their continuous endeavors to cultivate inclusive workplaces.

5. Conclusion

This research article examines the essential elements of understanding disability and inclusion in the workplace, the challenges to promoting an inclusive environment, and opportunities for improving inclusion. The main issues addressed emphasize the in-depth importance of cultivating environments that comprehensively assist and empower employees with disabilities.

Understanding disability and inclusion in the workplace necessitates acknowledging the different requirements and capabilities of employees with disabilities, along with the challenges that they encounter. The challenges encompass physical inaccessibility, technology obstacles, non-inclusive organizational cultures, attitudinal biases, and resource limitations. Confronting these problems is crucial for establishing an environment conducive to the growth of all employees.

Nonetheless, the opportunities for improving inclusiveness are as significant. Technological advancements, inclusive legislation, effective leadership, and cultural transformation provide avenues for substantial enhancement of accessibility and inclusion (Suresh & Dyaram, 2020). Capitalizing on these opportunities not only advantages employees with disabilities but also improves overall organizational performance, creativity, and employee satisfaction.

Furthermore, inclusion necessitates the dedication of multiple stakeholders, including HR professionals, managers, policymakers, and employees. Human Resources experts must spearhead the implementation of inclusive recruiting and retention techniques, managers must demonstrate inclusive behaviors and adapt to changing technological requirements, and legislators must support these initiatives through laws and incentives (Collier, 2016). Besides, inclusive workplaces for individuals with disabilities foster a more equitable and just society. They confront preconceptions, diminish economic inequalities, and foster social cohesion. When organizations emphasize inclusion, they not only harness the potential of their staff but also promote a more equitable economy and community.

Thus, promoting inclusive workplaces is a continuous endeavor necessitating the collaborative efforts of all stakeholders. By confronting challenges and capitalizing on opportunities, organizations may cultivate environments that support all employees, promote creativity, and enhance societal inclusivity. The advantages of these initiatives are beyond the workplace, shaping social perspectives and fostering enhanced equity and justice for everyone.

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The Fantastic Four Ps of Islamic Digital Marketing in Boosting the Asnaf Economy

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Abstract: In Perlis, initiatives to support asnafpreneurs lead to empowering these individuals through entrepreneurship, fostering self-reliance and economic growth. Programs may include training, micro-financing, and resources to help asnafpreneurs start and sustain their businesses. On the other hand, digital marketing encompasses various online strategies to promote products or services. For asnafpreneurs in Perlis, digital marketing can be a powerful tool to reach wider audiences, build brand awareness, and drive sales. In addition, the added Islamic value in digital marketing is expected to contribute to promoting Visit Perlis 2024. Therefore, this study aims to foresee the marketing mix elements 4Ps- Product, Price, Place, and Promotion with Islamic value integration in boosting the asnafpreneurs economy. In addition, this study employed a qualitative method. The data collected was among asnafpreneurs during a business workshop organized by Majlis Agama Islam Perlis (MAIPs). Four elements of the marketing mix and the integration of Islamic values are implemented to fill out the structured interview with five asnafpreneurs. Moreover, based on the findings, this study highlights asnafpreneurs' awareness of Islamic digital marketing. The impacts of Islamic digital marketing are analyzed and discussed in the concluding section. Additionally, several limitations are acknowledged, and recommendations for future research are provided.

Keywords: *Islamic digital marketing, asnafpreneur, 4Ps, Economy*

1. Introduction

In realizing the benefits of the "Perlis Go Digital" initiative, it is crucial to address the digital literacy gap among Perlisian entrepreneurs, particularly asnafpreneurs. Education and resources are provided on digital marketing strategies which empower these asnafpreneurs to compete effectively in the digital marketplace. Additionally, integrating Islamic values into marketing practices can offer a unique competitive advantage, building trust and credibility among Muslim consumers. Initiative on combining digital marketing with ethical principles, asnafpreneurs can enhance their economic well-being and contribute to the overall development of the Perlis economy.

Digitalization of Marketing

Social media platforms offer a powerful tool for Asnaf entrepreneurs to connect with potential customers, share their stories, and promote their offerings (Rahman & Abdullah, 2022). Partner with influencers who have a strong following and credibility in the target market to promote Asnaf products. Influencers can create sponsored content, reviews, or collaborations that can help increase visibility and awareness among their followers. Participate in local or regional events, trade shows, and exhibitions to showcase Asnaf products to a wider audience. This can help generate buzz, attract potential customers, and network with other businesses in the industry. Marketing can mobilize community support for asnaf entrepreneurs, encouraging local consumers to buy from them and support their economic activities (Saufi et al., 2021).

In addition, digital marketing tools and platforms can provide cost-effective ways for asnaf entrepreneurs to promote their products and services, reaching a broader audience with limited resources (Singh & Singh, 2023). Effective branding and marketing can help as asnaf entrepreneurs establish a strong brand identity, making their products and services more recognizable and attractive to consumers (Hanafi et al., 2023). Marketing education and training programs can enhance the skills of asnaf entrepreneurs, enabling them to effectively market their products and services (Ali & Abdullah, 2022).

Economy of Asnaf

The term "asnaf" in Islamic finance refers to the eight categories of people who are eligible to receive zakat, a form of charitable giving that is one of the five pillars of Islam. According to the Quran and Islamic law, the asnaf encompass a wide range of individuals in need of financial and social assistance, including the impoverished, the destitute, those responsible for administering zakat funds and others.

Marketing can raise awareness about the products and services offered by asnaf entrepreneurs, helping them reach a wider audience and increase sales (Ali & Rahman, 2021). Marketing strategies can help Asnaf entrepreneurs gain access to local and global markets, thereby expanding their customer base and increasing their income (Hassan & Noor, 2022). Consider investing in targeted advertising campaigns through digital channels such as Google Ads, Facebook Ads, or influencer marketing to reach a specific audience interested in Asnaf products. This can help increase brand awareness and drive traffic to the website or retail locations.

Besides, marketing can promote social entrepreneurship among the asnaf, encouraging the development of businesses that not only generate income but also address social issues within their communities (Yusoff et al., 2019). Establish a strong presence on social media platforms such as Instagram, Facebook, and Twitter to showcase Asnaf products. Regularly post high-quality images, videos, and updates about new products or promotions to engage with followers and attract new customers.

Marketing can facilitate partnerships between asnaf entrepreneurs and larger businesses or NGOs, providing them with resources, mentorship, and market access (Hassan & Noor, 2023), and campaigns can promote the concept of ethical consumption, encouraging consumers to support asnaf entrepreneurs by purchasing their products and services. Create special promotions, discounts, or limited-time offers to incentivize customers to try Asnaf products. This can help increase sales, generate word-of-mouth referrals, and create a sense of urgency among customers to make a purchase.

Problem Statement

The "Perlis Go Digital" initiative aims to modernize and digitize the local economy, promoting digital marketing as a tool for business growth. Despite these efforts, many Perlisian entrepreneurs remain unaware of the benefits and strategies of digital marketing, which hinders the full potential of economic development in the region. According to recent studies, a significant portion of local businesses are not leveraging digital tools effectively. This is supported by Alford and Page (2020) who conducted a study that found many small and medium-sized enterprises (SMEs) are still struggling to integrate digital tools into their operations. The study highlighted that while digital tools offer numerous benefits, a significant number of local businesses lack the necessary skills and resources to utilize these tools effectively, resulting in missed opportunities for growth and competitiveness. Besides, Shah et al. (2023) conducted a survey that revealed a considerable gap in digital adoption among local businesses. The study found that while some businesses have made strides in digitalizing their operations, a large portion still lags due to financial constraints, lack of knowledge, and inadequate infrastructure. Additionally, integrating Islamic values into marketing strategies can provide a competitive advantage for asnaf entrepreneurs. By emphasizing honesty, integrity, and community welfare, and ensuring products are Halal and Tayyib, asnaf can build trust and credibility with customers, ultimately enhancing their business success and economic well-being. Islamic values assisted in boycotts and enhanced brand loyalty among Muslim consumers. Moreover, the proactive promotion of ethical business practices, such as fair trade and corporate social responsibility (CSR), good behaviour and practices of the company employees and employers, aligns with the broader Islamic principles of justice and social welfare.

2. Literature Review

Integration and Evolution of the 4Ps

The traditional 4Ps model has evolved to address the complexities of modern marketing. The inclusion of additional elements such as People, Process, and Physical Evidence, particularly in service marketing, reflects the need for a more holistic approach (Zeithaml et al., 2020). Digital transformation has also necessitated the adaptation of the 4Ps framework, incorporating digital channels and technologies to remain competitive in a rapidly changing market (Chaffey & Smith, 2020).

Figure 1: The General Template of 4Ps

Product

The product element of the marketing mix encompasses the goods or services offered by a business to meet customer needs. Recent literature emphasizes the importance of innovation and sustainability in product strategy. According to Ottman (2021), consumers increasingly prefer products that align with their values, such as environmental sustainability and social responsibility. Companies are responding by developing eco-friendly products and adopting sustainable practices throughout their supply chains.

Moreover, the rise of digital products and services has reshaped the product landscape. A study by Smith (2020) indicates that businesses are investing heavily in digital transformation, creating new digital offerings, and enhancing existing products with digital features. Personalization and customization have also become critical, with companies leveraging data analytics to tailor products to individual preferences (Davenport & Ronanki, 2018).

Price

Price remains a crucial component of the marketing mix, directly affecting revenue and profitability. Recent trends emphasize dynamic pricing strategies, where prices are adjusted in real-time based on demand, competition, and other market factors. According to a study by Grewal and Roggeveen (2020), dynamic pricing, enabled by advanced analytics and machine learning, allows companies to optimize pricing strategies and maximize profits.

The COVID-19 pandemic has also influenced pricing strategies. Many companies have adopted more flexible pricing models to accommodate changing consumer behaviors and economic conditions (Sheth, 2020). Discounts, promotions, and payment plans have been used to attract price-sensitive customers during economic downturns.

Place

Place, or distribution, involves the channels through which products reach consumers. The rapid growth of e-commerce has significantly impacted distribution strategies. A report by McKinsey & Company (2021) highlights that the shift towards online shopping has accelerated, with companies investing in digital platforms and optimizing their supply chains for online fulfillment.

Omnichannel distribution has become essential, integrating online and offline channels to provide a seamless customer experience. Retailers are enhancing their brick-and-mortar stores with digital capabilities, such as click-and-collect services and in-store digital kiosks (Rigby, 2019). The focus on last-mile delivery has also intensified, with companies exploring innovative solutions like drone deliveries and autonomous vehicles (Grewal et al., 2021).

Promotion
Promotion encompasses the communication strategies used to inform and persuade consumers. The rise of digital marketing has transformed promotional activities, with social media, influencer marketing, and content marketing playing pivotal roles. According to a study by Statista (2022), digital advertising spending has grown exponentially, with social media and video advertising leading the way.

Influencer marketing has emerged as a powerful promotional tool, with brands partnering with influencers to reach targeted audiences. A study by de Veirman et al. (2019) found that influencer marketing effectively builds brand awareness and drives consumer engagement. Additionally, the integration of artificial intelligence in promotional activities enables personalized marketing campaigns and enhanced customer targeting (Jarek & Mazurek, 2019).

Evolution of Marketing Strategy
The evolution of marketing strategy reflects the dynamic nature of the business environment and the continuous advancements in technology. The shift to digital and omnichannel marketing, the rise of data-driven decision-making, the importance of content and influencer marketing, the focus on sustainability and ethical practices, and the adoption of technological innovations all underscore the complexity and sophistication of modern marketing strategies. As businesses navigate these changes, they must remain agile and responsive to emerging trends to maintain their competitive edge and meet the evolving needs of their customers.

The Shift to Digital and Omnichannel Marketing
One of the most prominent trends in recent years has been the shift towards digital and omnichannel marketing. Digital transformation has become a necessity for businesses aiming to stay competitive in a rapidly changing market environment. According to Chaffey and Smith (2020), digital marketing strategies now integrate various online channels, including social media, search engines, email marketing, and content marketing, to create a cohesive and comprehensive approach. Omnichannel marketing has also gained traction, focusing on providing a seamless customer experience across multiple touchpoints. Rigby (2019) emphasizes the importance of integrating online and offline channels to enhance customer engagement and loyalty. Companies are leveraging data analytics to understand customer journeys better and deliver personalized experiences, as highlighted by Lemon and Verhoef (2019).

Data-Driven Decision Making
The use of big data and analytics has revolutionized marketing strategy, allowing businesses to make more informed decisions. Data-driven marketing involves collecting and analyzing large volumes of data to gain insights into customer preferences, behaviors, and trends. This approach enables companies to tailor their marketing efforts more precisely and measure the effectiveness of their campaigns. Grewal, Roggeveen, and Nordfält (2021) discuss how advanced analytics and artificial intelligence (AI) are being used to predict consumer behavior, optimize pricing strategies, and enhance customer segmentation. The integration of AI in marketing has facilitated the development of more sophisticated models for targeting and personalization, improving the overall effectiveness of marketing strategies (Jarek & Mazurek, 2019).

The Rise of Content Marketing and Influencer Partnerships
Content marketing has continued to evolve as a critical component of marketing strategy. High-quality, relevant content helps businesses attract and engage their target audiences, build brand authority, and drive conversions. According to Pulizzi (2020), the focus has shifted from quantity to quality, with an emphasis on creating valuable content that resonates with consumers. Influencer marketing has also seen significant growth, with brands partnering with influencers to reach niche audiences and build authentic connections. De Veirman, Cauberghe and Hudders (2019) highlight that influencers can effectively enhance brand credibility and drive consumer engagement. The rise of social media platforms like Instagram, TikTok, and YouTube has amplified the impact of influencer marketing, making it a staple in modern marketing strategies.

Sustainability and Ethical Marketing
Sustainability and ethical considerations have become increasingly important in shaping marketing strategies. Consumers are more aware of environmental and social issues and expect brands to demonstrate responsibility and transparency. Ottman (2021) argues that sustainability marketing is no longer a niche but a

mainstream expectation, with businesses integrating eco-friendly practices and promoting their sustainability efforts. Ethical marketing practices, such as fair trade, corporate social responsibility (CSR), and transparent communication, are crucial for building trust and loyalty among consumers. Sheth (2020) points out that brands that align with consumers' values and demonstrate genuine commitment to ethical practices can achieve a competitive advantage.

Technological Innovations and Marketing Automation

Technological innovations have significantly impacted marketing strategy, particularly through the adoption of marketing automation tools. These tools streamline and optimize marketing processes, allowing for more efficient campaign management and better ROI. Chaffey and Ellis-Chadwick (2019) discuss how automation enables personalized email marketing, lead nurturing, and customer relationship management (CRM) systems. The use of chatbots, augmented reality (AR), and virtual reality (VR) in marketing has also gained momentum. These technologies enhance customer interactions and provide immersive experiences that can differentiate brands in a crowded marketplace. Grewal et al. (2021) highlight that AR and VR are being used for virtual product trials, interactive advertisements, and enhanced online shopping experiences.

Islamic Values in Marketing Strategy

Islamic marketing is built upon key principles such as *halal* (permissible) and *haram* (forbidden), *tawhid* (unity), *adl* (justice), and *ikhlas* (sincerity). These principles guide not only the production and promotion of goods but also the overall conduct of business. Alserhan (2020) explains that Islamic marketing must align with the ethical standards of Shariah, which include fairness in pricing, transparency in advertising, and the prohibition of deceitful practices. Businesses that incorporate these values into their marketing strategies are likely to gain the trust and loyalty of Muslim consumers, who increasingly seek products and services that align with their religious beliefs.

Digitalization of marketing, companies are now using technology to enhance their engagement with Muslim consumers. The use of social media platforms, e-commerce, and digital advertising has allowed businesses to reach a broader audience while maintaining compliance with Islamic values. Recent studies, such as those by Wilson and Liu (2021), highlight the importance of integrating Islamic ethics into digital marketing practices. For instance, online advertisements and content must avoid promoting *haram* products or misleading information. The rise of digital platforms also provides opportunities for companies to educate consumers about the ethical and religious aspects of their products, thereby fostering a deeper connection with the target audience.

The integration of Islamic values into marketing strategies also plays a crucial role in building consumer trust. Brands that consistently demonstrate their commitment to ethical practices, transparency, and social responsibility are more likely to gain the trust of Muslim consumers. This is particularly important in the context of the digital economy, where consumers have access to vast amounts of information and can easily verify a brand's claims. A study by Awan et al., (2021) emphasizes that Muslim consumers are highly responsive to brands that incorporate Islamic ethics into their marketing strategies. The researchers found that ethical branding, when aligned with Islamic values, can significantly enhance brand equity and customer loyalty. This trend is particularly evident in the food, finance, and cosmetics industries, where compliance with *halal* standards is a key factor in consumer decision-making.

El-Bassiouny (2020) notes that the rise of boycott movements has led companies to reconsider their marketing strategies, particularly in Muslim-majority markets. Businesses that fail to align with Islamic values or are associated with controversial practices may face boycotts, leading to significant financial and reputational damage. Boycotting movements have become a significant issue in recent years, particularly among Muslim consumers who seek to avoid products from companies perceived as supporting unethical practices or political agendas contrary to Islamic values. These movements are often driven by global events, such as political conflicts or human rights issues, and are amplified through social media.

For example, the boycotting of certain brands linked to controversial political stances has shown the power of Muslim consumers to influence corporate behavior. Companies are increasingly aware that adhering to Islamic values not only helps in avoiding boycotts but also enhances brand loyalty among Muslim consumers.

Moreover, the proactive promotion of ethical business practices, such as fair trade and corporate social responsibility (CSR), aligns with the broader Islamic principles of justice and social welfare.

3. Method

Qualitative Method

Qualitative research serves as a crucial methodological approach for exploring and understanding participants' perspectives, experiences, and meanings within a specific context. Unlike quantitative research, which emphasizes numerical data and statistical analysis, qualitative research focuses on in-depth insights and the richness of data. This approach is particularly beneficial in studying complex social and economic dynamics, such as the influence of Islamic digital marketing on asnafpreneurs. Given the evolving nature of digital marketing strategies, qualitative research offers the flexibility to adapt research designs as new insights emerge, ensuring a comprehensive analysis of the 4Ps (Product, Price, Place, Promotion) within an Islamic framework. Methods such as interviews, case studies, and focus groups provide valuable insights into how Islamic digital marketing can effectively empower asnaf entrepreneurs, ultimately contributing to economic growth and sustainability.

Observation Approach

Observation is a widely used qualitative research method that involves systematically watching and recording behaviors, events, or interactions within a natural setting. This method allows researchers to gather data in real-time, capturing the context and subtleties of the participants' actions and interactions. Observation can be either participant (where the researcher actively engages in the setting) or non-participant (where the researcher remains an outsider).

In the context of the current study involving asnafpreneurs, observation was chosen as the primary qualitative method to explore the effectiveness of a training workshop organized by Majlis Agama Islam Perlis (MAIPs). The workshop, conducted by lecturers from Universiti Teknologi MARA (UiTM) and Kolej Universiti Islam Perlis (KUIPs), aimed to empower asnafpreneurs with essential business skills and digital marketing strategies. The observation method was deemed appropriate for this study because it allowed researchers to directly witness the interactions, behaviors, and learning processes of the asnafpreneurs during the workshop.

The role of the researcher is critical as they serve as the primary instrument for data collection and analysis. In this study, the researchers from UiTM and KUIPs played a dual role. While the lecturers facilitated the workshop, the researchers focused on observing the asnafpreneurs' behavior and interactions. This dual role required careful attention to maintain objectivity and ensure that the observations were accurate and unbiased. The researchers also engaged in reflective practices, documenting their observations, thoughts, and interpretations immediately after each session. This reflective approach helped in capturing the nuances of the asnafpreneurs' experiences and provided a deeper understanding of the workshop's impact.

Asnafpreneurs as a Unit of Analysis

The unit of analysis in this study consisted of 5 asnafpreneurs who participated in the training workshop. These individuals represent a segment of the asnaf community in Perlis, who are eligible to receive zakat (charity) due to their economic status. The focus on asnafpreneurs as the unit of analysis is significant because it provides insights into the unique challenges and opportunities faced by this group in the context of entrepreneurship and economic empowerment.

By observing these asnafpreneurs, the researchers aimed to understand how they engaged with the training content, interacted with the trainers, and applied the knowledge and skills imparted during the workshop. This approach not only provided rich data on the effectiveness of the training but also highlighted the specific needs and concerns of the asnafpreneurs that could inform future training programs.

4. Results and Discussion

The following are some of the research findings that have been obtained after several studies that have been carried out by the researchers. Referring to the selection of research methods carried out above, the observation method is applied through the participation of knowledge transfer workshops to asnafpreneurs regarding the knowledge of marketing techniques. The innovation of The Fantastics 4 P's Model is used and applied towards the asnafpreneurs sample. The following are the results of the study found through the observation method that was conducted on the selected samples. The breakdown of instruments is divided into asnafpreneur preferences (Table 1), and marketing applied by asnafpreneur based on observation by checklist and photos (Table 2, Table 3, Table 4, and Table 5). Then, the results of the sample marketing techniques by asnafpreneurs were shared to show their level of understanding in the form of marketing posters, marketing videos, and marketing copywriting regarding their respective businesses. As stated above, the selection of five suitable samples is to be used for observation to obtain a resolution of the outcome.

Table 1: Profile of Asnafpreneurs in Perlis

Respondent	Business Name	Business Location
R1	Cendol Santan Sawit	Jalan Sarawak, Kuala Perlis, Perlis
R2	One Tailor 2 U	Taman Tengku Budriah, Arau, Perlis
R3	Acar Rebung Bonda	Balai Baru, Beseri, Perlis
R4	Kayaku Spa	PPK Bintong, Kangar, Perlis
R5	Clarissa Beauty Spa	Kampung Panggau, Kangar, Perlis

Table 2: Marketing Checklist Applied by Asnafpreneurs

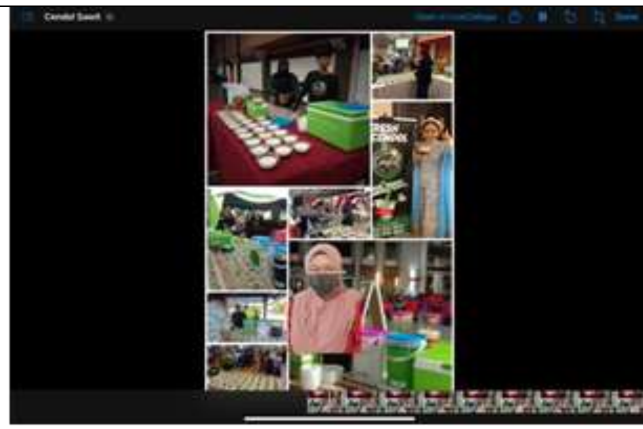
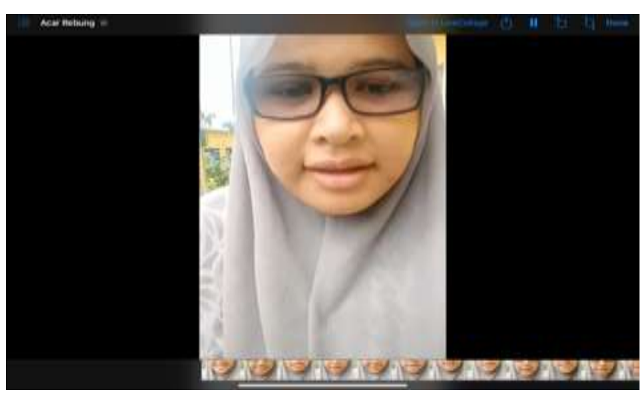
No	Instrument	R1	R2	R3	R4	R5
	Product					
1.	Product offered in line with Shariah compliance and the concept of "hallalan toyyiban"	✓	✓	✓	✓	✓
2.	The product gives beneficial and benefits to the consumers and also to the environment.	✓	✓	✓	✓	✓
3.	Solving and helping with consumers' daily affairs	✓	✓	✓	✓	✓
4.	The products or services offered have their commercial value and an advanced innovation idea.	✓	✓	✓	✓	✓
	Price					
1.	The price offered is reasonable and does not burden the user.	✓	✓	✓	✓	✓
2.	The price given is not too high to take excessive profit.	✓	✓	✓	✓	✓
3.	A part of the cost of profit is used towards the universal good and for helping the ummah.	✓	✓	✓	✓	✓
4.	Placing an element of charity in every value of money that is spent or traded	✓	✓	✓	✓	✓
	Promotion					
1.	Strategic promotions are organised and scheduled according to the appropriate season.	✓	✓	✓	✓	✓
2.	The promotional method carried out is not too extreme and does not violate the syariah compliance.	✓	✓	✓	✓	✓
3.	The impactful marketing techniques used are interesting and up-to-date.	✓	✓	✓	✓	✓
4.	Traders use digital and the latest platforms in promoting matters.	✓	✓	✓	✓	✓
	Place					
1.	It is easy for customers to access and obtain products or services when needed by users.	✓	✓	✓	✓	✓
2.	The business location is in a strategic and suitable area.	✓	✓	✓	✓	✓
3.	The business premises are by the specifications that have been set based on "hallalan toyyiban"	✓	✓	✓	✓	✓
4.	In the premises, do not sell prohibited and illegal goods together in business.	✓	✓	✓	✓	✓

Table 3: Sample Outcome of Marketing Poster Applied by Asnafpreneurs

Respondent	Photo	
R1		
R2		
R3		
R4		

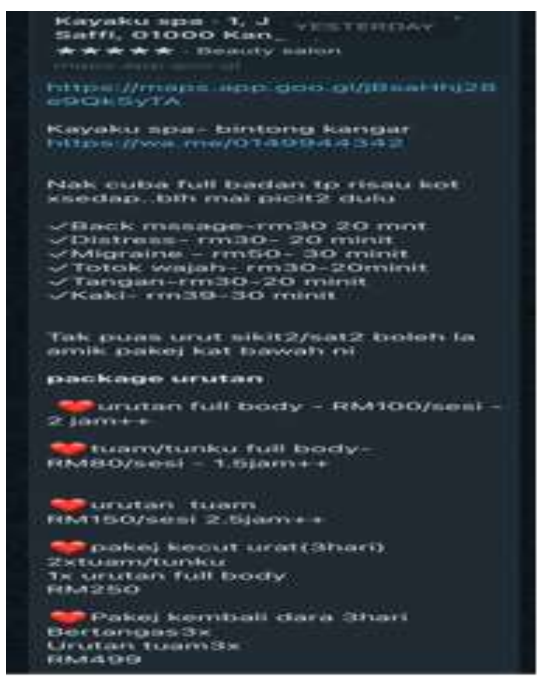
R5

Table 4: Sample Outcome of Marketing Video by Asnafpreneurs

Respondent	Video
R1	
R2	
R3	

R4	
R5	

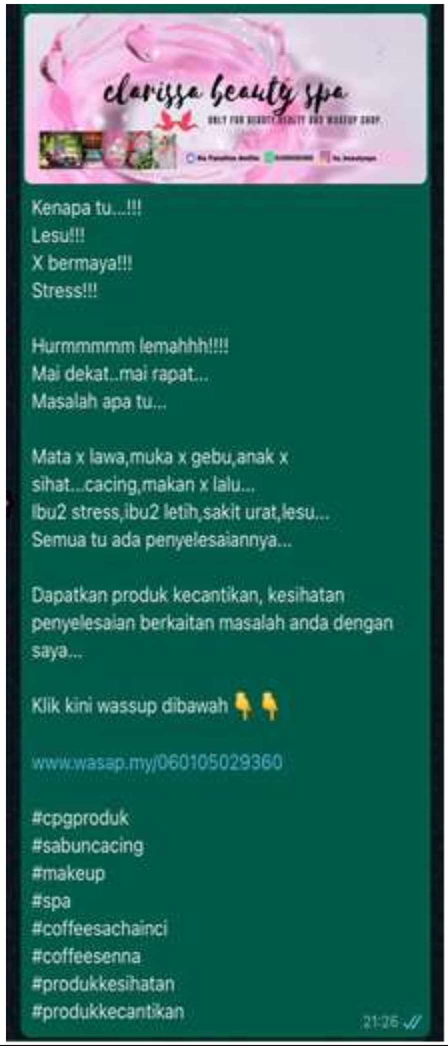
Table 5: Sample Outcome of Marketing Copywriting by Asnafpreneurs

Respondent	Copywriting
R1	-
R2	-
R3	

R4


Forwarded
Assalamualaikum & Hai Hampaa
ACAR REBUNG BONDA
Menggunakan Rebung Madu
100% Produk Muslim
Sesuai juga dijadikan doorgift/menu sampingan untuk majlis kenduri atau jamuan kecil-kecilan
Jommm! Cepat GRAB Harga LAST 2023
200g RM 6
500g RM 15
1kg Rm 28
Macamana nak beli
Haa tekan link ni
www.wasap.my/60174483792
Jangan risauuu boleh :-
Selfpickup di Balai Baru, Perlis
COD sekitar kawasan Perlis
Penghantaran Luar Perlis (Add On KosPos)
21:26

R5



Others have found that the use of the Fantastic 4 P's Model is applied and given exposure to asnafpreneur participants has given them new knowledge of the use of the latest marketing techniques. Previously, this use was only focused on the importance of the 4 P's technique. After adding to the importance of Islamic values that need to be emphasized, they have now acknowledged and taken into account the need for the matter. The results also found that this marketing template is capable of being a reference and guidance for entrepreneurs to find out what is required for content material or their marketing techniques.

Emphasis on Islamic values in marketing methods is necessary to balance the demands of the Shariah in obtaining blessings through their business dealings. Referring to the samples that have been selected as well, all of them have almost entirely met the specifications that have been subject to the reference of the marketing template. All the information about the 4 P's elements is necessary in carrying out appropriate marketing methods to provide full information about their business. This new knowledge will always benefit the asnafpreneurs for their future business.

5. Conclusion

Through this digital marketing study, the research method used is a qualitative research method. The qualitative method applied this time is based on the observation method from the results of a knowledge sharing workshop attended by asnafpreneurs participants who are doing business around the state of Perlis. A total of five samples of asnafpreneurs were taken as a pilot test to evaluate the effectiveness of the use of the business marketing model template. The observation method is carried out because it is an alternative available to obtain information and data collection in addition to questionnaires and interviews.

Through this observation method as well, the researcher can better examine the results from those given by the asnafpreneurs referring to the use of the recommended marketing model template. This method is also used to see the extent of the understanding of the participants through the knowledge presented in the introduction of the latest digital marketing ideas, and also the link to the application of Islamic values that are emphasized in their marketing methods. Then, a checklist is prepared as a checklist to assess the achievement of the asnafpreneurs and the proposed marketing model.

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Artificial Intelligence Adoption in Smaller Audit Practices

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Abstract: The emergence of new technologies, such as Artificial Intelligence (AI), is anticipated to profoundly impact the accounting and auditing sectors. AI is essential for automating repetitive tasks and enhancing audit judgment. This study seeks to investigate the adoption of AI in small audit firms in Malaysia. A qualitative research design was employed, involving semi-structured interviews with nine audit supervisors from small audit firms in Kuala Lumpur, Negeri Sembilan, Pahang, and Melaka. The discussion focuses on two elements: (1) Perceived Usefulness (PU) – emphasizing how AI enhances audit efficiency and accuracy, and (2) Perceived Ease of Use (PEU) – highlighting the ease of adoption and integration of AI tools into existing audit workflows. The findings reveal that AI is perceived as a valuable tool in small audit firms, improving audit quality and workflow by significantly accelerating the audit process. However, human expertise is still required for certain complex tasks and decision-making. Hence, it is crucial to communicate the AI's capabilities and constraints to prevent users from experiencing undue disappointment. The findings of this study aim to assist regulators and standard-setters in developing guidelines, principles, and frameworks for AI adoption among audit firms in Malaysia.

Keywords: *Artificial Intelligence (AI), Auditing, Audit firms, Automation, Technology adoption*

1. Introduction

The integration of technology into accounting and auditing has driven remarkable advancements, improving efficiency, accuracy, and reliability. Key technologies propelling this transformation include automation, artificial intelligence (AI), blockchain, data analytics, and cloud computing. The use of AI in auditing is not a novel concept (Keenoy, 1958). According to the World Economic Forum (2015), the adoption of AI in auditing is projected to increase by 30 percent by 2025. The Malaysian Institute of Accountants (MIA) (2023) identifies improved efficiency and workplace mobility as the primary drivers of technological adoption. Traditional audit processes are labor-intensive and time-consuming (Chan & Vasarhelyi, 2011), hence, automation is crucial to alleviate repetitive tasks and improve audit judgment (Huang & Vasarhelyi, 2019).

The convergence of various new technologies under the umbrella of the Fourth Industrial Revolution (IR 4.0) has the potential to profoundly impact organizations. The accountancy profession must adapt and implement emerging technologies to remain competitive. Shamsudin et al. (2024) revealed that applications from Microsoft, communication technology, fintech, mobile applications, application software, and online communication are the most popular and relevant technologies among audit and non-audit organizations, with adoption rates nearing 90%. However, it is noteworthy that advanced technologies such as AI, XBRL, robotic process automation, and big data analytics have adoption rates below 60%.

In practice, large accounting firms such as Ernst & Young (EY) have introduced robotic process automation (RPA) to handle repetitive tasks within auditing and accounting. AI and machine learning algorithms have been employed to enhance data analysis and auditing processes (Huang & Vasarhelyi, 2019). Similarly, Grant Thornton utilizes AI to enhance risk assessment and fraud detection capabilities. The firm applies AI tools to analyze financial statements and operational data to identify unusual patterns or potential red flags indicative of fraud or financial irregularities. These AI tools expedite data processing and assist auditors in identifying risks early in the audit process (Grant Thornton, 2023).

In Malaysia, the Malaysian Institute of Accountants (MIA) developed the Digital Technology Blueprint to guide accountants in formulating action plans aligned with technological trends. A 2017 MIA survey assessing technology adoption within Malaysia's accountancy profession revealed that 92% and 97% of respondents regularly used accounting software and Microsoft applications, respectively. Over 60% of respondents reported occasional or regular use of cloud applications. Nonetheless, less than 25% of respondents utilized other technologies, such as fintech, AI, and data analytics. Moreover, the top three technological trends—cybersecurity, big data analytics, and automation—also exhibited low adoption rates within the Malaysian accountancy profession (MIA, 2018). However, a 2019 survey showed a decline in the percentage of respondents who had never or rarely used data analytics tools, dropping from 79% in 2017 to below 60% in 2019. This suggests increasing exposure to these technologies. Notably, over 40% of 2019 respondents reported frequent or occasional use of data analytics, doubling the 20% from 2017 (MIA, 2023).

This paper is structured as follows: the subsequent section reviews relevant literature, followed by a detailed explanation of the study's methodology. The findings and discussion section provides an in-depth analysis of the results, while the paper concludes by outlining its limitations and suggesting potential directions for future research.

2. Literature Review

Definition and Applications of AI: The term "artificial intelligence" (AI) was first defined in 1956 as "the science and engineering of making intelligent machines" (McCarthy, 2007, p. 2). AI captivates both amateurs and experts within the AI community. The concept of a man-made machine capable of thinking, learning, and making decisions autonomously has long been a prominent theme in popular culture (Hasan, 2022). Martinez (2019) proposed that a general definition of AI can be applied across various fields and applications, provided it remains adaptable to new developments in autonomous AI. Over the 20th century, artificial intelligence evolved into increasingly sophisticated machines and algorithms capable of reasoning and adapting to environments and rules resembling human intellect (McCarthy, 2007). With technological advancements such as machine learning and neural networks, Wang (2019) extended AI's scope to include cognitive functions like learning and problem-solving (Zawacki-Richter et al., 2019). Presently, AI is widely used across fields, including business, research, art, and education, to enhance productivity and user experience. AI applications extend to daily life, such as smart home devices, smartphones, Google, and Siri (Ng et al., 2021).

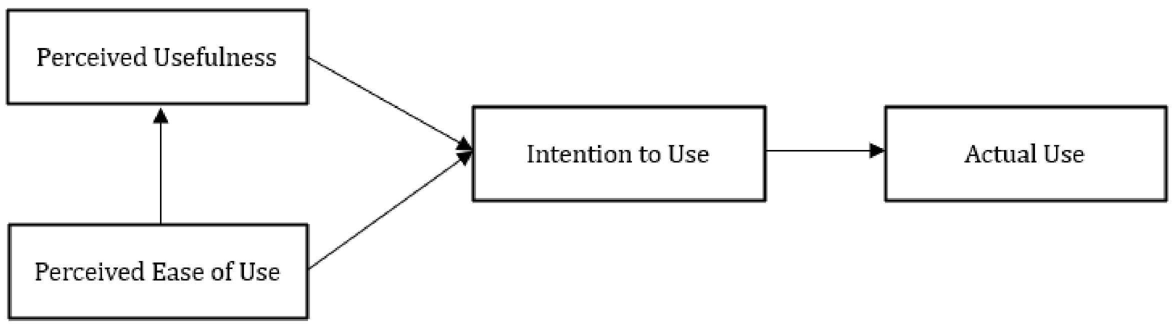
AI's potential applications in accounting and auditing are expected to strengthen and support corporate operations, including audit firms and their clients (Hasan, 2022). AI technologies used by auditors are regarded as "agents" assigned to specific tasks, akin to reliance on other specialists, such as estate valuers and solicitors, to establish audit evidence supporting audit judgments. It remains the auditor's responsibility to ensure that these tools are suitable, reliable, and effective for the task at hand. However, decision-making with AI-based technologies presents a double-edged sword. If an auditor's decision proves erroneous, they may be held accountable both for insufficient utilization of modern decision aids and for relying on an expert system that produced a flawed outcome (Omoteso, 2012).

Additionally, AI plays a pivotal role in auditing by automating repetitive and time-consuming tasks such as data extraction, document review, and transaction analysis (Almufadda & Ahmed Almezeini, 2022). This enables auditors to allocate more time to strategic tasks requiring human judgment. AI tools can analyze large datasets and perform calculations significantly faster than humans, reducing the time needed for audits, particularly for large or complex clients (Almaqtari et al., 2024). Moreover, AI tools are more efficient and less susceptible to human error, resulting in enhanced audit accuracy and fewer financial reporting errors (Murphy, 2017). AI's ability to monitor financial data in real time allows auditors to promptly address irregularities rather than relying solely on periodic reviews.

However, the introduction of AI in auditing presents several challenges. Implementing AI technologies entails considerable initial costs, including investments in software, infrastructure, and skilled personnel (Almaqtari et al., 2024). Smaller firms may struggle with the financial demands of adopting AI. Additionally, gaining client trust in AI systems is a significant hurdle. Clients may hesitate to embrace AI-assisted audits, fearing that machines might overlook critical aspects discernible to human auditors. AI systems often operate as a "black box," making it difficult to comprehend how specific decisions are reached. AI requires a substantial amount of data to produce high-quality products. However, relying on this data can be problematic if the data is erroneous, biased, or unrepresentative (Mahusin et al., 2024). Furthermore, biases embedded in AI training data can lead to unfair or skewed outcomes, potentially undermining the fairness and objectivity of audit results (Mahusin et al., 2024; Tyagi et al., 2020).

Technology Acceptance Model: The Technology Acceptance Model (TAM) developed by Fred Davis in 1989 explains user motivation through three key factors: perceived usefulness, perceived ease of use, and attitude towards use, which can reflect either favourability or unfavorability towards the technology (Taherdoost, 2018). TAM delineates three stages of technology acceptance: external factors (system features) influence cognitive reactions (perceived usefulness and ease of use), which, in turn, shape affective responses (attitude towards technology use or intention), ultimately affecting user behavior (Marikyan & Papagiannidis, 2023). Hence, TAM is used as the theoretical framework, guiding the exploration of perceived usefulness and perceived ease of use, which are the key determinants of technology adoption (Ria, 2023; Inayatulloh et al., 2021; Taherdoost, 2018).

Figure 1: The Technology Acceptance Model (TAM) developed by Fred Davis in 1989



Incorporating a user-friendly and practical component of information technology to obtain higher-quality data would be beneficial for many businesses to enhance the process of decision-making. In alignment with TAM, Abdullah et al. (2023) found that the accuracy, reliability, and easy-to-use data of accounting information systems positively related to the performance of SMEs in Malaysia as it assists management in making informed decisions. This is crucial since inadequate data quality can lead to incorrect data analysis. Apart from that, perceived usefulness and perceived ease of use significantly affected cloud accounting adoption in the banking industry in Indonesia, besides other factors such as management support, organizational competence, service quality, and system quality (Ria, 2023). Hence, cloud computing enhances business flexibility, which is the main determinant of its implementation, resulting in high efficiency of big data analysis (Attaran & Woods, 2019). Meanwhile, the adoption of artificial intelligence technology in complex and encompassing increasing volumes of data in managerial accounting is hindered by factors such as resistance to change, organizational culture, lack of trust, and the high price of technology. Nevertheless, the solutions to the barriers can be achieved through innovation and process optimization, improving the use of accounting information, and is relatively easy to use, given the significant level of automation and customization (Vărzaru, 2022).

On the other hand, the successful adoption of AI in audit practices largely depends on how auditors perceive its usefulness in enhancing their work and its ease of integration into their workflows (Marikyan & Papagiannidis, 2023). If auditors find that AI significantly improves audit quality and decision-making without being overly complex or disruptive, its adoption is likely to increase. Furthermore, auditors and firms are more inclined to adopt AI if it is perceived as improving efficiency, accuracy, and overall effectiveness. AI can automate repetitive tasks, minimize human error, and enable the swift analysis of large datasets compared to manual methods. For example, AI can streamline data extraction, enhance fraud detection, and support improved decision-making (Seethamraju & Hecimovic, 2023). If auditors view these benefits as valuable in improving audit quality, decision-making, and client satisfaction, the likelihood of AI adoption will increase. Similarly, the ease of adoption is influenced by factors such as user-friendly interfaces, minimal training requirements, and adaptability, which contribute to the overall accessibility of AI tools in everyday audit work.

3. Methodology

This study employs a qualitative research design involving semi-structured interviews to interpret and analyze the data. The focus is on perceived usefulness, ease of use, and attitudes towards the adoption of AI in audit practices. Nine audit supervisors from small audit firms located in Kuala Lumpur, Negeri Sembilan, Melaka, and Pahang participated as interview subjects. These states were selected based on their classification as more developed under the Twelfth Malaysia Plan (RMK-12) (Economic Planning Unit, 2016), attributed to strong internet connectivity, reliable Wi-Fi, and superior facilities, equipment, and digital tools (Kamal et al., 2023). The interviews were recorded with prior consent and subsequently transcribed for detailed analysis. The profiles of the interviewees are presented in Table 1 below.

Table 1: Interviewees' Profile

No	Interviewees	AI Implementation	State of Audit Firm
1	R1	Yes	Kuantan
2	R2	Yes	Kuala Lumpur
3	R3	Yes	Kuala Lumpur
4	R4	Yes	Kuala Lumpur
5	R5	Yes	Melaka
6	R6	No	Negeri Sembilan
7	R7	No	Negeri Sembilan
8	R8	No	Negeri Sembilan
9	R9	No	Kuala Lumpur

Respondents were questioned about their general perceptions of AI, its potential benefits and challenges, and its impact on current audit practices. Eight open-ended questions guided by the TAM were employed to structure the interviews. This method allows respondents to elaborate on their thoughts, which provides a richer understanding of their perceptions, challenges, and expectations, which may not be captured through closed-ended surveys (Ria, 2023). The questions on Perceived Usefulness (PU) and Perceived Ease of Use (PEU) were constructed by the researchers based on previous studies (Abdullah et al., 2023; Ria, 2023; Vărzaru, 2022; AlNasrallah & Saleem, 2022; Inayatulloh et al., 2021; Silaban & Siallagan, 2019; Taherdoost, 2018) with modifications to accommodate this study. As shown in the table below, PU and PEU were measured through four items each to fix the context of this study.

Table 2: Questions Discussed During the Interviews

Construct	Operational definition	Measured items
Perceived Usefulness (PU)	AI's ability to enhance both audit quality and work efficiency	**PU1:** How has AI contributed to enhancing operational efficiency in your audit firm? **PU2**: In your experience, how effective is AI in uncovering irregularities during audits? **PU3**: In your opinion, has AI reduced the time required for audit procedures such as sample selection and evidence collection? **PU4**: What are the key limitations of AI in auditing, based on your experience?
Perceived Ease of Use (PEU)	Respondents' perceptions of the ease of use of AI in the audit include the user interface, ease of navigation, system integration, availability of technical support, customization, and flexibility.	**PEU1**: Based on your experience, what are the biggest challenges you face when using AI in auditing? **PEU2**: Do you find the AI's user interface and navigation intuitive and user-friendly? **PEU3**: In your opinion, how well does the AI integrate with client systems? **PEU4**: What improvements would you suggest for AI technical support?

4. Findings and Discussion

The objective of this study is to explore the implementation of AI in small audit firms in Malaysia through semi-structured interviews with audit supervisors. A total of nine respondents from various small audit firms were interviewed, of which only five firms have integrated AI into their current audit practices. The findings presented below focus on these five firms, offering insights into the practical application of AI. The discussion is organized around two key themes: (1) Perceived Usefulness—the extent to which AI enhances audit efficiency, accuracy, and overall quality; and (2) Perceived Ease of Use—how easily AI tools are adopted and integrated into existing audit workflows.

Perceived Usefulness: The perceived usefulness of AI in small audit firms is evident in its ability to enhance both audit quality and work efficiency. For small audit firms, where resources are often limited, the adoption of AI represents a valuable tool to improve operational efficiency, maintain audit quality, and remain competitive in an evolving industry landscape.

Influence on Work Quality: Respondents acknowledged the advanced capabilities of AI in auditing, as it is capable of performing real assessments and uncovering the context behind each transaction. This greatly improves audit quality and enhances the evaluation of audit outcomes. While AI can identify irregularities and enhance efficiency, its limitations, such as incorrect mapping and errors, highlight the necessity of human oversight and review.

"AI systems can detect irregularities. For example, an invoice being prepared on a Sunday, when the finance department typically only works from Monday to Friday, raises questions about whether such an action is authorized. The AI's ability to uncover these irregularities goes beyond current audit methods, which generally focus on whether the necessary items are present in an invoice, without delving into the context or 'story behind the figures'." [R2]

"Even after using the AI for three months, we still faced issues with the mapper, which led to incorrect figures being entered and audit results being wrong. To avoid these errors, we ended up reverting to the traditional way of doing audits." [R1]

While AI significantly enhances audit quality by uncovering irregularities and providing deeper insights, its limitations underscore the essential role of human oversight in maintaining accuracy. The need to revert to traditional methods, as noted by [R1], highlights that AI is a powerful tool but not a complete replacement for human judgment in auditing. These findings align with those of Omar et al. (2017) and Vărzaru (2022), who emphasize the continued need for human intervention in auditing, even as AI assumes greater responsibilities.

Impact on Work Efficiency: The implementation of AI in small audit firms has brought transformative improvements in work efficiency by automating routine tasks, improving data accessibility, and streamlining the audit workflow. Respondents [R3, R4, and R5] collectively recognized the value of AI in accelerating audit procedures, particularly in areas such as sample selection, evidence collection, and documentation review, which traditionally require considerable time and manual effort. Additionally, the integration of advanced technologies like blockchain, ERP systems, and cloud-based solutions has enabled both clients and auditors to operate in a paperless environment, minimizing the risk of data manipulation. This shift towards automation and digitalization highlights the essential role of AI in driving efficiency within modern audit practices, allowing small audit firms to optimize resources and ultimately deliver higher-quality audit engagements.

"The AI has become an essential tool in today's audit landscape, simplifying tasks and making our work more efficient—for instance, the process of selecting audit samples." [R3]

"The AI makes the audit process faster since documents are easily accessible, and auditors have direct access to client's documentation. It helps during the planning phase and evidence collection process." [R4]

"AI technology is a significant aid in audit evidence collection, creating financial statements, and facilitating communication through e-mail. In the real working environment, clients use blockchain technology and ERP

systems. The entire department utilizes big data. Nowadays, clients don't maintain manual records. They practice paperless systems and online payments via the cloud to eliminate manipulation. As auditors, we simply download the necessary documents." [R5]

Beyond workflow improvements, AI significantly enhances the depth and accuracy of audit processes by enabling comprehensive transaction reviews and detecting anomalies that traditional methods may overlook. This functionality demonstrates a high perceived usefulness, as it improves the accuracy and thoroughness of audits by examining all transactions rather than relying on sampling. These results are consistent with Estep et al. (2023), who observed that thorough reviews can be conducted without auditors needing to sample data. AI's advanced capabilities allow it to detect anomalies, such as unauthorized invoice preparation, which can reveal discrepancies that traditional methods might miss. This significantly improves audit efficiency and expedites the audit process.

"The AI audit system can potentially replace traditional audit methodologies and programs. It audits each ledger thoroughly, ensuring that 100% of transactions, like purchase orders and invoices, are reviewed. For instance, in a sales transaction, the AI can analyze how documents are prepared and verify if the correct personnel is preparing them. It can detect if an invoice is being prepared by someone from the sales department instead of finance, where it should be. This feature is extremely useful because it ensures that only the appropriate personnel are preparing critical documents, improving the accuracy and reliability of our audits." [R2]

"The AI system can test 100% of the population over 12 months and detect anomalies, such as different employees sharing the same address. However, the system has limitations in this area, as it cannot determine whether individuals with the same address are, for instance, married couples or merely coincidentally living at the same location. This is where human intervention remains essential; auditors are needed to verify and interpret the data correctly." [R2]

Further, respondents discussed the limitations of AI in auditing. While AI is highly effective, particularly in risk assessment and assisting managers by quickly identifying potential issues, it still requires human interpretation in more complex analytical scenarios. The high perceived usefulness of AI, owing to its ability to process large datasets and identify trends, necessitates human auditors to verify and interpret results to ensure credibility.

"AI can test 100% of staff data over 12 months and detect anomalies like different employees sharing the same address. But there's a limitation—AI can't determine if they're a married couple or just sharing an address. This is where human auditors are still essential, as we need to verify and interpret the data. AI is incredibly helpful, especially in risk assessment and assisting at the managerial level by quickly identifying issues. However, human interpretation is still needed, particularly for more complex analytical tasks." [R2]

"Current auditing practices require a human touch." [R3]

"There is a need for extensive discussions between auditors and programmers since AI technology is still relatively new and has a wide scope of application." [R5]

Perceived Ease of Use: This study further explores respondents' perceptions of the ease of use of AI in the audit process. Key factors identified by respondents include the user interface, ease of navigation, system integration, availability of technical support, customization, and flexibility.

User Interface and Navigation: Respondents expressed frustration with the AI system, highlighting a gap between their expectations and the actual performance of the technology. Although the AI was intended to simplify the process of generating and categorizing a trial balance for two years, its execution was flawed. The AI was expected to automatically categorize items (e.g., office equipment under Property, Plant, and Equipment (PPE), and depreciation under expenses). However, the mapping (one of the features in AI) often contained errors, requiring users to double-check and manually correct the categorizations. Some items were not detected at all, necessitating further manual input. This experience reflects a low perceived ease of use, as the system did not operate smoothly and required additional manual effort, undermining its intended convenience.

"We expected the AI to simplify our work by automatically generating the trial balance and accurately categorizing items, but it often made mistakes. This shows that the technology is not fully ready yet, as we had to manually correct and input categories that the AI missed." [R1].

Conversely, another participant discussed how AI audit technology could potentially replace traditional audit methodologies, audit programs, and audit tests.

"It eases our job as the AI system is designed to thoroughly audit each ledger, ensuring that 100% of the transactions, such as purchase orders and invoices, are reviewed." [R2].

Integration: One major issue was that the system was not linked with the client's system, necessitating manual vouching. According to a study conducted by Adeoye et al. (2023), when the auditor uses AI but the client does not, there is a lower level of acceptance for audit adjustments by clients. In contrast, when both the auditor and client use AI, clients are more likely to agree to the audit adjustments proposed by the auditor. This creates challenges when clients use AI but auditors do not, or vice versa, increasing the likelihood of reverting to old manual methods.

"We had to do vouching manually because our system wasn't linked with the client's system" [R1].

"It is harder when clients rely on manual documents, which slows down the audit" [R5].

Technical Support and Troubleshooting: Despite the AI being designed to streamline tasks, users often encountered issues that required contacting the service center. The system's slow performance caused long wait times, even when working with just one company. These frequent problems and delays made the system feel inefficient, reducing its perceived ease of use, as it failed to provide the expected convenience and time savings.

"Every time we faced a problem, we had to call the service center, which was a huge waste of our time. The system itself was slow, with long loading times and delays in generating the necessary information. We had only worked on one company, and it was already causing so many issues. We had to contact the service center multiple times for assistance, which made the entire process frustrating and inefficient" [R1].

"It takes some time for us to get used to the system, and we still rely on manual audit processes when we encounter issues" [R3].

"Our team requires ongoing training and technical support to navigate and utilize AI tools effectively" [R4].

Customization and Flexibility: Unlike standard Microsoft Excel, the system's version disallows adding new sheets, creating significant challenges, especially for tasks like auditing working papers for Property, Plant, and Equipment (PPE). The inability to add sheets or delete rows made the system cumbersome, particularly for complex tasks like group company consolidation under tight deadlines. This was frustrating because users expected the system to automatically generate and populate audited figures seamlessly. Instead, it was time-consuming and inefficient, leading users to prefer manual work with traditional Microsoft Excel, which was faster and simpler. These issues significantly lowered the perceived ease of use, as the system could not meet basic user needs.

"Once the mapping is done, it automatically transfers into its version of Excel, which isn't like the usual Microsoft Excel we use. One major flaw is that you can't add new sheets—for example, if we need to create workings for PPE, we can't add a sheet for that. You also can't delete rows, which makes the process very difficult, especially when working in a group company with deadlines and consolidation tasks. It's all very confusing and stressful. I do not like it, and I do not find it helpful at all. If we did it manually using regular Microsoft Excel, it would be much faster. Initially, we expected the AI to automatically generate and input the audited figures into the report, but getting to that point is just a waste of time" [R1].

Despite an extended period of use, the mapper continued to cause problems, leading to incorrect figures being input, which resulted in inaccurate audit results. Due to these ongoing errors, the team reverted to traditional manual audit methods to ensure accuracy. This significant investment raised concerns about whether AI could truly provide value. The perceived ease of use was also diminished, leading the team to revert to manual methods despite the high costs of the system.

"Another problem was that if we forgot to adjust after completing the audit, we had to recast everything, and all the references and formulas would disappear. My superior said the current system is not helping, so he's thinking about trying another new AI, even though the current AI technology had charged them RM25,000 for each license cost per staff. That's a huge cost, and it's hard to see if the AI is worth it" [R1].

5. Conclusion

This study aimed to examine the implementation of AI in small audit firms in Malaysia through semi-structured interviews with supervisors in the audit departments. The findings indicate that AI is useful in improving both audit quality and work efficiency by automating sample selection, enabling full population testing, easing access to client documents, reducing the time needed for evidence collection, and identifying irregularities that are often overlooked by traditional audit methods. Based on its ease of use, the findings indicate that its advanced capabilities facilitate and simplify the audit workflow, significantly improving and expediting the auditing process. Notwithstanding the advantages of AI, its flaws lie in its lack of reliability and usability, attributable to its operational complexity. Frequent errors forced users to manually correct and input data, undermining its purpose of convenience and automation. Slow processing speeds and technical issues impact productivity. These constraints suggest that the AI system is not as sophisticated as it should be to operate at its best and is not ready to effectively fulfill its intended role in the auditing context. While AI brings notable improvements to auditing, certain complex tasks and decision-making still require human expertise.

The findings offer several implications for the profession. The study emphasizes the importance of clear communication about AI's capabilities and limitations so that users can achieve their objectives without experiencing disappointment. It calls for audit firms to implement educational and awareness programs and develop technical expertise to effectively use AI systems and address challenges like error correction and data validation. This awareness could help firms make strategic decisions about integrating AI into their processes, ensuring that it complements audit tasks. The study also underscores the role of human oversight in the auditing process. It can guide regulators and firms in developing frameworks that ensure ethical and effective AI usage, maintaining public trust in audits.

While the researchers acknowledged the study's significant contribution, there are several limitations. First, it only involved a small sample of AI users. Second, the focus was exclusively on small audit practices. It would also be highly beneficial to examine AI's impact on audit outcomes or to include a broader range of industry interviews beyond auditing. Overall, the deployment of AI in auditing firms holds significant potential to enhance efficiency and adapt to new digital opportunities, but it needs to be carefully integrated and continuously evaluated to ensure it adds meaningful value and supports the evolving needs of the profession.

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The Role of Young People and Social Media in Promoting Fascinating Sungai Petani

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Abstract: This article explores how young people, acting as social agents, utilize social media to promote local communities. Through the utilization of digital platforms, these young individuals are exerting a growing impact on the economic, cultural, and social aspects of their local environments. The problem addressed is the need to understand the effectiveness of social media in reaching and engaging audiences. The objective is to evaluate the effectiveness of social media platforms used by young people in reaching a target audience. A quantitative method was employed to track the number of views, likes, shares, and comments of a promotional video over a specified 30-day timeframe. The major results indicate significant audience engagement, evidenced by high numbers of views, likes, shares, and comments. The results also emphasize the significant influence of social media initiatives driven by young people in improving local visibility and engagement. By improving the visibility of local communities, this strategy aims to increase the number of visitors to Sungai Petani and simultaneously enhance the socio-economic level of local people and the area. The conclusion highlights the potential of young people as influential social agents in promoting local communities through the use of social media.

Keywords: *Young people, Social media, Social agents, Local communities, Sungai Petani*

1. Introduction

Promoting local communities is crucial for fostering sustainable development, enhancing economic resilience, and strengthening social cohesion. In the context of tourism development, Godfrey and Clarke (2000) define communities as central to the entire tourism experience, not just as passive hosts. Communities provide essential services such as accommodation, food, and transportation, and their unique local attributes, such as natural environments, architecture, cultural institutions, and history, constitute the core attractions for tourists. Whether in small villages or large cities, communities are deeply intertwined with tourism and are directly impacted by its growth and development. By investing in local initiatives, we can empower local people to take charge of their futures and create a more vibrant, interconnected society. This approach not only boosts local economies but also fosters a sense of ownership and pride among community members, leading to innovative solutions tailored to their unique challenges.

Tourism plays an important role in Malaysia's economic development, contributing approximately 15% to the country's GDP before the COVID-19 pandemic (Tourism Malaysia, 2020). However, the pandemic severely disrupted the sector, leading to a sharp decline in international arrivals and forcing many businesses to close. While recovery efforts are underway, the tourism landscape remains highly competitive, with destinations such as Kuala Lumpur, Penang, and Langkawi attracting the majority of visitors. In contrast, lesser-known locations like Sungai Petani face challenges in gaining visibility, mainly due to limited awareness, underdeveloped tourism infrastructure, and insufficient promotional efforts.

Young people play important roles as social agents in promoting their local communities. They contribute significantly to the development of local communities by participating in various activities that help build a vibrant and dynamic community environment (Schwartz et al., 2016). Moreover, they bring fresh perspectives and energy, often spearheading initiatives that highlight cultural heritage and environmental conservation, which can attract visitors while fostering a deeper connection to their roots. However, many young people face challenges such as limited access to funding, a lack of mentorship, and the need for skills development to effectively implement their ideas.

Given these challenges, digital marketing has become an essential tool for boosting tourism in underrepresented areas. Social media platforms, such as Instagram, Facebook, and TikTok, allow young people to showcase their communities, highlight cultural and historical sites, and engage with potential visitors. Malaysia's recent recognition as Asia's safest and most peaceful travel destination (Travel + Leisure, 2024) presents a significant opportunity for towns like Sungai Petani to rebrand themselves and attract tourists through targeted online campaigns. However, the effectiveness of social media-driven tourism promotion depends on factors such as content quality, audience engagement, and accessibility to digital marketing training.

Sungai Petani, one of the largest towns in Kedah, Malaysia, functions as a significant commercial and industrial hub. Located in the southern region of Kedah and near Penang to the west, Sungai Petani plays a pivotal role in the state's economic landscape. The Kedah Development Framework has placed a strong emphasis on fostering archaeotourism, geotourism, and ecotourism as key components of the state's broader economic activities. These initiatives align with Kedah's vision of becoming a thriving and livable state by 2035 (Kedah Strategic Development Plan, 2035). Within this strategic plan, two primary development zones have been identified for Sungai Petani: (1) the Gunung Jerai – Lembah Bujang Eco-Archaeo Tourism Zone, which includes the Lembah Bujang/Sungai Batu Archaeological Site, Jerai Geopark, Kuala Muda Mangrove, and Tanjung Dawai – Pantai Merdeka Ecotourism, as well as adventure sports tourism; and (2) the Kuala Muda Biodiversity Zone, which focuses on ecotourism, agribusiness related to fisheries, heritage tourism, and the conservation of the Kota Kuala Muda mangroves (NCER Malaysia, 2009-2024).

Tourism is a vital contributor to Malaysia's economy, generating employment, fostering cultural exchange, and driving regional development. However, the sector has faced challenges, particularly in the wake of the COVID-19 pandemic, which led to reduced international tourist arrivals and a greater reliance on domestic tourism. In response, the Malaysian government has intensified efforts to revitalize tourism through initiatives such as Visit Kedah 2025, with a particular emphasis on leveraging digital tools for promotion (Tourism Malaysia, 2024). In this context, Sungai Petani holds significant potential as an emerging tourist destination, yet it remains underexplored compared to other hotspots like Langkawi or Penang. The increasing accessibility of social media presents an opportunity to bridge this gap, allowing young people to highlight Sungai Petani's cultural heritage, natural landscapes, and unique attractions to a wider audience. Understanding how effectively these platforms are utilized is crucial for shaping future tourism development strategies in the region.

This paper aims to evaluate the effectiveness of social media platforms used by young people in promoting their local community, Sungai Petani. By examining the strategies employed and the success of these efforts, particularly through the "Fascinating Sungai Petani" program, this study offers valuable insights into the dynamic role that young people and social media platforms play in local development. The findings contribute to a deeper understanding of how digital engagement can drive community visibility, tourism, and economic growth at the local level.

2. Literature Review

Social agents and their impact on local communities: Young people play a significant role as social agents in promoting local communities, acting as catalysts for social change and community development. Their involvement is multifaceted, encompassing participation in social activism, socio-cultural development, and youth work. By channeling their creativity and digital skills, they can bridge the gap between tradition and modernity, fostering a sense of pride and ownership within their communities.

Young people are increasingly recognized as critical drivers of social change, with their active participation in shaping the process of development in a country. This involvement is facilitated through co-production and participatory approaches, which empower young people to contribute to community development in which such engagement acknowledges their expertise in their lived realities (Tyrrell, 2023). This means young people not only drive community development but also significantly impact local communities through their active participation in social change initiatives.

Therefore, young people play a crucial role to become catalysts for innovation, inspiring others to join in collective efforts that address pressing social issues and promote sustainable practices. Their unique perspectives and energy can lead to creative solutions that resonate with diverse populations, fostering a sense of ownership and responsibility among community members.

The power of social media as a promotional tool: Social media has become a crucial tool for promoting local destinations and engaging a wider audience, allowing local people to share their stories, experiences, and unique aspects of their culture with the world. Tourism Malaysia has reported that 80.6% of travelers were aware of destinations and promotions via social media and online platforms in 2024. This demonstrates the central role social media plays in shaping tourists' perceptions of destinations and increasing their attractiveness. The study by Silaban et al. (2022) indicates that promoting destinations on social media can significantly influence their attractiveness and public perception. When consumers believe that a destination is attractive, it will positively impact the destination's image. Furthermore, the destination image can significantly impact the visit intention. This highlights the importance of a cohesive marketing strategy that not only showcases the destination's features but also builds a narrative that resonates with travelers' desires and expectations.

According to Tourism Malaysia's statistics, 55.3% of respondents were influenced by the "Cuti-Cuti Malaysia" campaign to holiday domestically in 2023, showcasing the effectiveness of destination branding. This campaign played a significant role in reinforcing the positive image of local destinations, making them more appealing to domestic tourists. This aligns with Pike & Page's (2014) concept of destination marketing, which emphasizes the importance of creating a cohesive marketing strategy to influence travelers' intentions.

Furthermore, the importance of social media is further emphasized by the 85.9% of respondents who prefer social media promotion when it comes to tourism marketing (Tourism Malaysia, 2024). This figure supports Alshehri (2024) claim that social media not only aids in destination marketing but also contributes to destination branding and image building. Destination branding refers to the process of creating a unique identity and image for a specific location to attract tourists. It involves promoting the destination's characteristics, culture, and experiences to differentiate it from others. Image building refers to the process of creating and enhancing the perception of a person, organization, or destination in the minds of the public. It involves strategic communication and marketing efforts to shape how a target audience views a particular entity.

Thus, the interplay between social media and these processes is crucial, as it allows for real-time engagement and feedback, enabling destinations to adapt their strategies based on audience reactions and preferences. This dynamic relationship not only fosters a sense of community among tourists but also encourages local participation in the promotion of their own culture and heritage.

Young people as digital natives and their proficiency with social media: In 2024, internet penetration in Malaysia reached 97.4%, with 33.59 million internet users. Of these, 28.68 million individuals, accounting for 83.1% of the total population, were active on social media platforms. Additionally, there were 44.55 million cellular mobile connections, representing 129.2% of the population, indicating the widespread access and use of digital devices. Among social media users aged 18 and above, there were 22.35 million Facebook users, 24.10 million YouTube users, 15.70 million Instagram users, 28.68 million TikTok users, 11.85 million Facebook Messenger users, 7.80 million LinkedIn members, 1.46 million Snapchat users, and 57.1 million X (formerly Twitter) users (Kemp, 2024). These statistics highlight the pervasive presence of social media in the daily lives of young Malaysians, positioning them as digital natives who are highly proficient in navigating these platforms.

Research consistently identifies youth as avid and skilled users of social media across the globe (Ismail, 2014; Lenhart, Anderson, & Smith, 2015; Mahadi, 2013; Raco, 2014). Social media offers diverse functionalities, including communication, socialization, education, information seeking, and entertainment. It also serves as a platform for sharing knowledge and creative content, such as images, videos, and written works (Mesch, 2009; Shewmaker, 2012). This proficiency enables young people to engage actively in content creation and dissemination, contributing significantly to the digital landscape.

Media literacy is a critical aspect of this proficiency, empowering youth to interact with social media platforms in a manner that fosters their healthy development and active participation. As highlighted by Joo, Seok, and Nam (2020), the ability to discern credible information from misinformation is crucial for shaping individuals' attitudes, beliefs, and behaviors, ultimately influencing society at large. Educational initiatives that promote digital literacy are essential in equipping young people with the skills to navigate the complexities of online interactions, ensuring they consume content responsibly and contribute positively to the digital ecosystem (Eleni et al., 2023).

By fostering critical thinking skills, these initiatives help young users recognize credible sources, thereby promoting a more informed and engaged community. As digital natives, young people's proficiency with social media not only facilitates their participation in content creation but also positions them as influential social agents capable of shaping public discourse and driving social change in their communities.

The effectiveness of social media in promoting local communities: The 21st century has witnessed a significant shift in tourists' preferences, with a significant movement towards digital and e-services. Social media has emerged as one of the most powerful tools for engaging audiences, raising awareness, and disseminating information about tourist destinations. Platforms such as blogs, microblogs, social networks, and media-sharing sites have become indispensable in the tourism industry, enabling content to reach vast, diverse audiences globally (Ong, Sutawijaya, & Saluy, 2020). These platforms not only serve personal uses but are increasingly leveraged by businesses and governments to promote tourism products and services, due to their ease of use, cost-effectiveness, and widespread reach (Putri, 2020).

Tourism Malaysia (2024) has reported that 80.6% of visitors became aware of local tourism destinations and promotions through social media and online platforms. This statistic highlights the importance of social media in amplifying destination visibility and engagement. Moreover, 85.9% of respondents prefer social media promotion, underlining its influence in tourism decision-making, which resonates with Jupiter's (2009) research, indicating that 50% of internet users consult blogs before making purchase decisions. In the context of tourism, the interactive nature of social media platforms provides users with the ability to ask questions, provide feedback, and share their experiences, which further enhances the tourism experience before, during, and after a visit. This also fosters a sense of community beyond just immediate friends and family (Radojević, Nguyen, Bajec & Ferra, 2020).

The effectiveness of social media in promoting local tourism is compounded by its ability to amplify user-generated content with a single click, making it an invaluable tool for promoting destinations at a regional level. A powerful feature of social media is how it extends beyond the promotional efforts of local governments to include the broader community, thus creating a more comprehensive promotional strategy. The "Cuti-Cuti Malaysia" campaign, for example, influenced 55.3% of respondents to opt for domestic travel in 2023. This statistic further illustrates how destination branding and social media campaigns converge to shape travel decisions. Additionally, 74.2% of respondents are aware of the "Cuti-Cuti Malaysia" campaign, which signifies the broad reach and successful impact of social media in spreading awareness.

Tourism Malaysia's statistics support the argument made by Cave & Dredge (2020) regarding the power of peer recommendations on social media platforms. 81% of internet users consult others' opinions or reviews before booking vacations, and 90% trust recommendations from friends and peers over advertisements. In the case of Tourism Malaysia (2024), social media platforms enable the amplification of recommendations and reviews, which are critical in shaping the destination's image and influencing visit intention. For example, natural attractions and local cuisine, which are often shared on platforms like Instagram and YouTube, account for 40.6% and 29.1% of the key factors attracting tourists to Malaysia, respectively. This reflects the power of social media in amplifying the allure of local experiences and destinations, thus positively influencing tourist decisions.

In line with this, the "Top Visitor Arrivals" by Tourism Malaysia shows that Singapore, Indonesia, and China are among the highest sources of international tourists. This confirms the effectiveness of social media in attracting tourists from various countries, as social media platforms facilitate real-time engagement and increase awareness among potential travelers. Furthermore, the increase in visitor arrivals of 24.2% in 2024, along with a 43.4% increase in tourist receipts, illustrates the tangible impact of social media strategies on tourism growth.

The involvement of young people as digital natives has also contributed to enhancing the visibility of Malaysia as a tourist destination. Their familiarity with platforms like TikTok and Instagram, and their inclination to share travel experiences, significantly boost the engagement levels of tourism promotion efforts. As Elmo et al. (2022) and Zhang et al. (2023) note, social media has become a dynamic force that influences public perception, drives mobility, and builds a tourism ecosystem that benefits both the local community and tourists. The rise of social media campaigns, such as those run by Tourism Malaysia, further solidifies the role of these platforms in shaping the country's tourism industry.

Thus, the power of social media lies in its ability to not only engage users but also to amplify destination marketing, branding, and community participation. Tourism Malaysia's use of social media strategies has contributed to a more integrated promotional approach, which has significantly influenced travel behavior and enhanced Malaysia's position in the global tourism market.

Sustainable Communities: The promotion of local tourism through social media by young people plays an important role in advancing Sustainable Development Goal 11 (SDG 11), which focuses on creating sustainable cities and communities. This study aligns with SDG 11 by demonstrating how youth-driven digital initiatives can enhance local visibility and foster socio-economic growth in Sungai Petani. The strategic use of social media not only promotes cultural heritage and local attractions but also supports sustainable urban development by attracting responsible tourism and fostering community engagement.

According to Eleni, Kilipiri, Papaioannou, and Kotzaivazoglou (2023), social media and influencer marketing are critical tools for promoting sustainable tourism destinations, as they effectively engage broader audiences and drive interest in less-explored areas. Similarly, Joo, Seok, and Nam (2020) highlight the moderating effect of social media on sustainable rural tourism, emphasizing its role in shaping tourist behavior and encouraging sustainable practices. By leveraging social media, young people in Sungai Petani contribute to the sustainability of their community, aligning their efforts with global sustainability goals and reinforcing the potential of digital platforms to support sustainable tourism and urban development.

3. Research Methodology

This study provides a comprehensive examination of the role of young people's participation and the utilization of social media in promoting local tourism in Sungai Petani. Specifically, the study focuses on the involvement of 240 students aged 19 to 20, enrolled in the Development Administration course at Universiti Teknologi MARA, Kedah Branch. These students were tasked with leveraging social media platforms to engage a global audience and attract potential tourists to Sungai Petani through the "Fascinating Sungai Petani" program. The selection of this age group is reflective of the participants' academic level and skills, which are particularly relevant to the study's objectives.

The students were instructed to collect visual content, including photographs and videos, showcasing various aspects of Sungai Petani. This content was then disseminated across popular social media platforms such as TikTok, Instagram, and Facebook. The aim was to assess the effectiveness of social media as a tool for promoting local tourism and to measure the engagement generated by the students' posts.

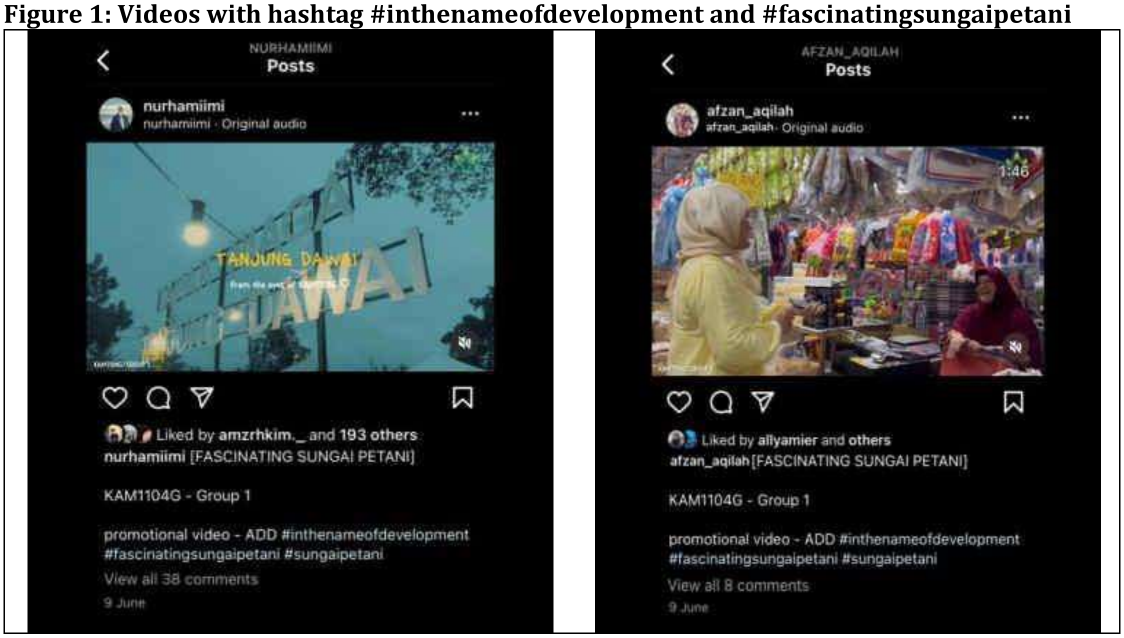
The study was conducted over one month, from 9th June 2024 to 9th July 2024, in alignment with the requirements of the Development Administration course for that semester. While one month may seem short for a long-term impact evaluation, it was sufficient for assessing the initial engagement and reach of the social media campaigns. During this time, the students actively shared their content on social media, and the impact of their efforts was tracked by monitoring key metrics such as the number of views, likes, shares, and comments. These metrics provided quantitative data to evaluate the immediate reach and engagement of the social media campaigns initiated by the students.

This methodological approach allows for an in-depth analysis of how young people, as social agents, can effectively utilize digital platforms to promote local tourism and contribute to the socio-economic development of their communities.

4. Findings

Strategies Employed by Young Social Agents: The findings of this study provide a comprehensive insight into how young social agents, who are well-versed in digital media, utilized visual storytelling techniques such as photos and videos to effectively promote local attractions, events, and businesses in Sungai Petani. These students, acting as content creators, identified two primary development zones about Sungai Petani: (1) the Gunung Jerai – Lembah Bujang Eco-Archaeo Tourism Zone, which includes the Lembah Bujang/Sungai Batu Archaeological Site, Jerai Geopark, Kuala Muda Mangrove, and Tanjung Dawai – Pantai Merdeka Ecotourism, as well as adventure sports tourism; and (2) the Kuala Muda Biodiversity Zone.

Figure 1: Videos with hashtag #inthenameofdevelopment and #fascinatingsungaipetani



Each of these locations was meticulously featured in the videos created by the students, with a focus on highlighting the most compelling aspects of each site. This included not only visually appealing elements but also informative content such as interesting historical facts, details about the available facilities, and the cultural significance of the sites. For instance, the videos on Lembah Bujang and Sungai Batu Archaeological Site emphasized its rich historical background, while those on Jerai Geopark highlighted its geological importance and scenic beauty.

In addition to this, the students provided practical information on how to access these locations, making the content highly user-friendly and informative for potential visitors. They also took the opportunity to showcase upcoming events and local businesses, including souvenir shops and eateries, which are integral to the visitor experience. This not only enhanced the content's relevance but also supported local businesses by driving tourist traffic to these areas.

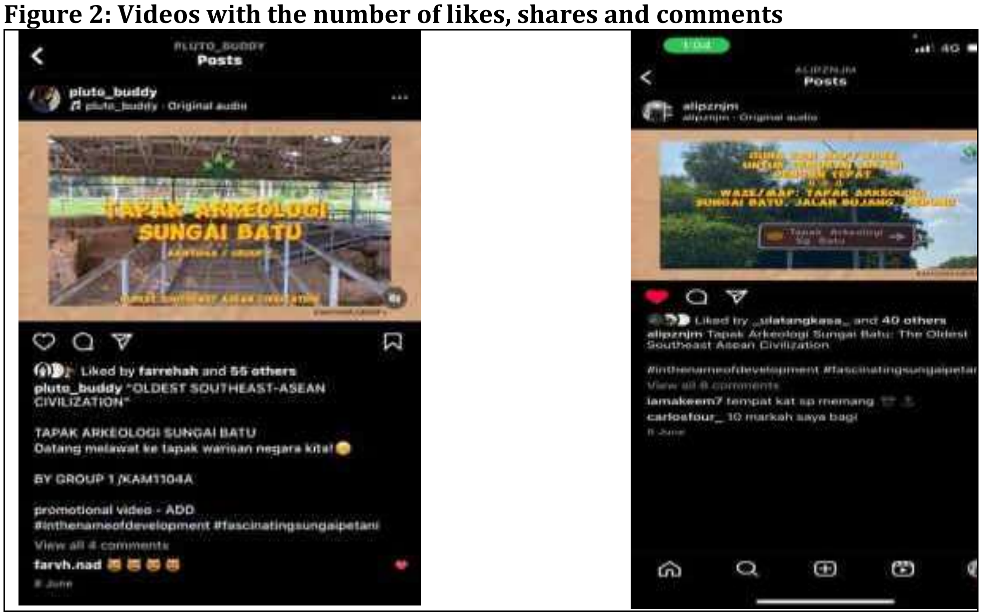
To further increase the reach and engagement of their content, the students strategically employed hashtags, a critical tool in digital marketing. By using local-themed hashtags such as #inthenameofdevelopment and #fascinatingsungaipetani, they tapped into the power of user-generated content, encouraging the audience to engage with the campaign and contribute their own experiences and stories. This tactic was particularly effective in fostering a sense of community pride and participation, as it allowed the audience to become co-creators in the promotional efforts.

The use of these hashtags significantly increased the visibility of the content across various social media platforms. This approach not only broadened the campaign's audience but also engaged individuals beyond the immediate social circles of the students, creating a ripple effect that extended the campaign's reach across a wider demographic. The interactive nature of social media allowed for real-time feedback and engagement, with users liking, sharing, and commenting on the posts, thereby contributing to the virality of the content.

Effectiveness of Social Media Promotion: The effectiveness of social media promotion in the Fascinating Sungai Petani campaign was demonstrated through a detailed analysis of social media metrics, including likes, shares, comments, and follower engagement. The study involved 240 social media accounts, each operated by young social agents, who shared videos highlighting various local attractions and events in Sungai Petani.

The data indicates a high level of engagement and reach, with each account generating an average of 50 interactions per post, encompassing likes, shares, and comments. These interactions reflect the audience's active interest in the content, suggesting that the visual storytelling approach resonated well with viewers. Additionally, the use of strategic hashtags further amplified the campaign's visibility, enabling the content to reach beyond the immediate follower base of the students, engaging a broader audience.

Figure 2: Videos with the number of likes, shares and comments



This high engagement level is particularly noteworthy as it signifies not only the effectiveness of the content in capturing the audience's attention but also its potential to foster community participation and enhance local pride. The significant number of shares, in particular, highlights the viral potential of the campaign, as followers actively contributed to disseminating the content, thereby expanding its reach exponentially.

Moreover, the comments and feedback received provided valuable insights into public perception and highlighted the effectiveness of using social media as a promotional tool for local tourism. The positive responses and active participation of users indicate that social media when leveraged by young social agents, can be a powerful medium for promoting local communities and driving socio-economic benefits through increased tourism. This study demonstrates that the strategic use of social media by digitally native young people can have a profound impact on local development initiatives, particularly in promoting lesser-known areas like Sungai Petani.

Table 1: Summary of Engagement Metrics (Average Likes, Shares, Comments per Post)

No.	Content Type (areas for promotion)	Average Likes			Average Shares			Average Comments		
		Ig	Fb	Tt	Ig	Fb	Tt	Ig	Fb	Tt
1.	The Gunung Jerai – Lembah Bujang Eco-Archaeo Tourism Zone									
	Lembah Bujang/Sungai Batu Archaeological Site	68	61	77	18	14	23	32	28	47
	Jerai Geopark	63	58	78	40	33	49	48	39	54
	Kuala Muda Mangrove	57	53	72	45	38	59	42	38	51
	Tanjung Dawai	73	58	84	67	52	78	46	41	61
	Pantai Merdeka Ecotourism	62	54	79	58	49	73	53	47	63
2.	The Kuala Muda Biodiversity Zone.	70	64	79	54	46	64	49	44	59

Table 1 presents the average engagement metrics for social media posts promoting key tourist areas within two zones: the Gunung Jerai – Lembah Bujang Eco-Archaeo Tourism Zone and the Kuala Muda Biodiversity Zone. Each area's engagement is measured in terms of average likes, shares, and comments, which indicate public interest and interaction levels.

In the Gunung Jerai, Lembah Bujang Eco-Archaeo Tourism Zone, the Lembah Bujang or Sungai Batu Archaeological Site received an impressive number of likes (68 on Instagram, 61 on Facebook, and 77 on TikTok), though it had relatively lower shares (18 on Instagram, 14 on Facebook, and 23 on TikTok) and comments (32 on Instagram, 28 on Facebook, and 47 on TikTok). This suggests that the site attracted substantial initial interest, particularly on TikTok, but engagement through shares and comments was more moderate. The Jerai Geopark exhibited a well-balanced engagement pattern, with 63 likes on Instagram, 58 on Facebook, and 78 on TikTok. Shares were also strong, with 40 on Instagram, 33 on Facebook, and 49 on TikTok, and the comments reflected high interaction with 48 on Instagram, 39 on Facebook, and 54 on TikTok.

In addition, Kuala Muda Mangrove demonstrated consistent engagement, with 57 likes on Instagram, 53 on Facebook, and 72 on TikTok. Shares were notably high (45 on Instagram, 38 on Facebook, and 59 on TikTok), and comments were similarly strong, with 42 on Instagram, 38 on Facebook, and 51 on TikTok. Tanjung Dawai achieved the highest engagement in terms of shares (67 on Instagram, 52 on Facebook, and 78 on TikTok), alongside 73 likes on Instagram, 58 on Facebook, and 84 on TikTok. The comments were also strong (46 on Instagram, 41 on Facebook, and 61 on TikTok), indicating a high level of interaction. Pantai Merdeka Ecotourism had a solid performance with 62 likes on Instagram, 54 on Facebook, and 79 on TikTok, along with 58 shares on Instagram, 49 on Facebook, and 73 on TikTok. The comments reflected strong engagement as well, with 53 on Instagram, 47 on Facebook, and 63 on TikTok.

In the Kuala Muda Biodiversity Zone, engagement was also strong across the platforms, with 70 likes on Instagram, 64 on Facebook, and 79 on TikTok. Shares were notable as well, with 54 on Instagram, 46 on Facebook, and 64 on TikTok, and comments reflected solid interaction levels, with 49 on Instagram, 44 on Facebook, and 59 on TikTok.

Overall, the data indicates that TikTok had the most significant impact on promoting tourism in Sungai Petani. It consistently generated the highest engagement across all tourist areas, especially in terms of likes, shares, and comments. TikTok's capacity to attract a broad audience, stimulate interaction, and generate viral content contributed substantially to the campaign's success. Instagram followed closely, particularly in generating likes and shares, with a strong level of engagement seen across many areas. Facebook, while contributing positively, generally saw lower engagement compared to TikTok and Instagram, especially in shares and comments.

For example, in the Gunung Jerai, Lembah Bujang Eco-Archaeo Tourism Zone, Tanjung Dawai performed exceptionally well on TikTok, generating 84 likes, 78 shares, and 61 comments, suggesting TikTok's superior ability to generate both visibility and interactive engagement. Similarly, Pantai Merdeka Ecotourism also saw a boost from TikTok with 79 likes, 73 shares, and 63 comments, reinforcing TikTok's role as the most effective platform.

In the Kuala Muda Biodiversity Zone, TikTok again led in engagement with 79 likes, 64 shares, and 59 comments, highlighting its broader reach and the potential for viral marketing. While Instagram performed well, particularly with Tanjung Dawai, TikTok was the clear leader in creating significant impact and generating substantial audience interaction.

This analysis highlights the power of TikTok as the most effective tool for promoting tourism in Sungai Petani, particularly when targeting younger, tech-savvy audiences who are most likely to engage with content through likes, shares, and comments. Instagram remains a solid second choice, and Facebook, while still valuable, should be considered a secondary platform in this context.

The feedback and comments received further confirm the effectiveness of visual storytelling in engaging audiences. The positive responses from TikTok users, especially, suggest that the platform's format; short, engaging videos, can be a highly effective tool for promoting local tourism, driving socio-economic benefits through increased visibility and interaction with lesser-known destinations like those in Sungai Petani.

Discussion

The strategies adopted by the young social agents in this study align with broader trends in digital tourism promotion. Visual storytelling, which involves the use of compelling images and videos, has been identified as a powerful tool in destination marketing. According to Eleni, Papaioannou, and Kotzaivazoglou (2023), visual content on social media platforms like Instagram plays a crucial role in influencing travel decisions and promoting sustainable tourism destinations. In the case of Sungai Petani, the students' focus on highlighting historical facts, available facilities, and upcoming events not only provided valuable information to potential tourists but also contributed to the preservation and promotion of the local heritage.

The strategic use of hashtags, such as #inthenameofdevelopment and #fascinatingsungaipetani, further amplified the reach of the students' content. Hashtags serve as a means to categorize content, making it more discoverable to a broader audience. As noted by Alshehri (2024), hashtags like #Alula on Twitter (X) were instrumental in creating a social graph that connected users with shared interests in tourism, thereby increasing the visibility of the destination. Similarly, the use of local-themed hashtags by the students in Sungai Petani fostered community engagement and pride, encouraging user-generated content that further contributed to the promotion of the area.

The effectiveness of social media as a promotional tool is well-documented in the literature. Kamaluddin et al. (2023) highlight that the quality of tourism information shared on social media significantly influences destination brand awareness among youth. In this study, the high levels of engagement—evidenced by likes, shares, comments, and follower growth—demonstrate that the social media promotion of Sungai Petani was successful in reaching and resonating with the target audience. The average of 50 shares, likes, and comments per post indicates that the content not only captured the attention of viewers but also prompted them to actively engage with it.

This finding is consistent with the results of a study by Silaban et al. (2022), which found that destination promotion on social media platforms, particularly Instagram, significantly impacts users' intentions to visit. The interactive nature of social media allows for real-time feedback and engagement, making it an effective medium for influencing travel decisions. Furthermore, Pike and Page (2014) emphasize that destination marketing organizations (DMOs) should leverage social media to enhance their promotional efforts, as it offers a cost-effective way to reach a global audience.

The findings of this study also align with the Theory of Planned Behaviour (TPB), which suggests that social media use can moderate the relationship between attitudes and intentions toward sustainable rural tourism (Joo, Seok, & Nam, 2020). In the context of Sungai Petani, the students' social media campaign not only shaped positive attitudes toward the local attractions but also encouraged behavioral intentions, such as visiting the sites and participating in upcoming events.

5. Conclusion

The success of the "Fascinating Sungai Petani" program highlights the transformative role that young people can play as social agents in driving local development. By leveraging their digital skills and creativity, these young individuals have contributed significantly to the economic and cultural vitality of their community. As Schwartz et al. (2016) highlight, youth involvement in community initiatives can foster social cohesion, stimulate local innovation, and act as a powerful driver of sustainable development. The increased visibility of Sungai Petani's attractions on social media platforms is likely to lead to an increase in tourist arrivals, thereby supporting local businesses and enhancing the socio-economic well-being of the area.

This study also emphasizes the growing importance of social media in promoting lesser-known destinations like Sungai Petani. As digital platforms continue to evolve, their potential for boosting local tourism will only expand. The findings contribute to the growing body of literature on the role of social media in sustainable tourism, demonstrating that young people, empowered with digital tools, can become pivotal agents in shaping the future of local tourism and community development.

However, while the study shows promising results, it also opens up several avenues for future research and exploration. To better understand the long-term impact of social media-driven tourism promotion, further studies could investigate how sustained digital engagement affects not only tourist visitation but also the sustainability of local tourism practices, the preservation of cultural heritage, and the development of community infrastructure over time. Longitudinal studies could provide valuable insights into whether the initial boost in tourism has lasting positive effects on both the economic and environmental aspects of local development.

Further exploration into the effectiveness of different social media platforms is also needed. While TikTok has proven to be a major player in the success of the Sungai Petani program, platforms like Instagram, Facebook, and YouTube each have their strengths and target audiences. Understanding which platforms work best for different types of content, audiences, and destinations will help refine future strategies. Research could also explore how new features and algorithms on these platforms impact engagement and how trends in user behavior influence tourism promotion strategies.

Another important opportunity for future research is to leverage youth involvement in tourism promotion in a more structured, scalable way. The digital skills and innovative thinking demonstrated by young social agents in this study could be harnessed through more formalized training and mentoring programs. This would help to ensure that youth are continuously engaged in promoting their local communities, fostering a sense of ownership and pride in their heritage while equipping them with the skills to thrive in the digital economy.

In conclusion, the strategies employed by young social agents in Sungai Petani, combined with the effective use of social media, underscore the transformative power of digital platforms in local development. Future research should aim to assess the long-term effects of such initiatives on tourism sustainability, community engagement, and the economic growth of smaller tourist destinations. Additionally, exploring the role of youth, new social media trends, and the scalability of these strategies will provide invaluable insights for promoting sustainable and inclusive tourism in regions around the world.

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