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FACTORS CONTRIBUTING TO THE ACCEPTANCE OF VERIFY HALAL APP AMONG THE MALAYSIAN MUSLIM CONSUMERS

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ABSTRACT

The presence of a halal mark on a food product serves as an indicator that the food has been certified as halal and is deemed suitable for consumption according to Islamic dietary guidelines and safety standards. However, the increased demand for halal food in the market has led many business owners to exploit this trend by intentionally misleading consumers with false claims of halal certification. To address these issues, the Verify Halal app platform was developed. However, there is a lack of research on the factors contributing to its acceptance. As such, this study explores the factors contributing to the acceptance of Verify Halal app among the Malaysian Muslim consumers. To achieve this objective, survey questionnaires were distributed online and face-to-face to collect data from 250 Muslim respondents in the Klang Valley area of Malaysia. The data collected were analyzed using SPSS. The results indicate that religiosity, perceived ease of use, perceived usefulness, and social influence contribute positively and significantly to the acceptance of the Verify Halal app. However, trust contributes negatively and insignificantly to its acceptance among Malaysian Muslim consumers. The findings of this study have serious implications for several entities, including halal business owners, halal consumers, halal app developers, and government

entities. Specifically, halal business owners should ensure that information about their products listed on the app is accurate, current, and in compliance with halal standards. The findings call on halal consumers to frequently use the app to search for and purchase halal-certified products, which could contribute to the development of an effective community for other users. Halal app developers should prioritize user-centric design principles, which will not only increase initial engagement but also generate positive reviews and referrals, thereby contributing to the Verify Halal app's market reputation. Finally, various forms of government incentives, such as grants and collaborations, can be provided to facilitate the advancement of the Verify Halal app.

Keywords: Technology Acceptance Model; Religiosity; Perceived Ease of Use; Perceived Usefulness; Social Influence; Verify Halal; consumer acceptance.

INTRODUCTION

With strong determination to follow the commandments of Allah Subhanahu Wa Ta'ala (SWT) regarding the consumption of food that is good and pure and abstaining from anything that is not, halal food consumption has become a trending topic among consumers, researchers, and government agencies. While there is no doubt that recent advancements in science and technology have enhanced the production of foods, beverages, cosmetics, and pharmaceuticals worldwide, this progress has inadvertently led to the inclusion of numerous unknown ingredients in food items. Given that products are now made with various ingredients, halal consumers, particularly Muslims, are concerned about ingredient transparency, information asymmetry, production processes, ethical considerations, and certification challenges (Ab Rashid & Bojei, 2020; Hidayati *et al.*, 2023). Although the only way to authenticate the halal status of products is by referring to the authority's halal logo (Jaiyeoba *et al.*, 2020), the significant issues surrounding the forging and misuse of halal logos (Hassan *et al.*, 2022) have made consumers question the authenticity of the halal logos on several products in the marketplace today.

To this end, JAKIM has been taking steps to give customers a platform through which they can acquire information on halal products and services since 2006 (Junaini & Abdullah, 2008). As proof, JAKIM has created two technologies that allow customers to verify the halal status of products when making buying decisions. The first technology introduced was the e-Halal portal, followed by SMS e-Halal. The e-Halal portal provides information about JAKIM, as well as news and updates pertaining to halal-related topics. In addition, it serves as a source of reference not only for consumers but also for businesses and manufacturers, allowing them to gain a deeper understanding of issues pertaining to halal certification. Although this site simplifies the process for customers to determine whether a product complies with halal guidelines, its lack of mobility makes it less effective for customers shopping at physical locations (Shamil, 2013).

Meanwhile, the advancements in communication technology have made mobile apps and smartphone applications very popular and widely used across all generations. People always have them installed on their phones and can practically check products' halal status wherever they go. Furthermore, the outbreak of the COVID-19 pandemic has necessitated the use of smartphones to verify the halal status of products daily before making purchase decisions. As a result, the usage of mobile applications has now surpassed the use of mobile websites. The mobile application industry is currently saturated, and customers have access to a wide selection of apps that can be downloaded from app stores. These apps can be easily accessed by customers on their mobile devices by connecting to the internet (Malik *et al.*, 2017). Recent efforts to develop halal-based apps at both the government and private sector levels have led to the

introduction of many halal mobile apps, including MyJAKIM, Smart Halal, Verify Halal, Halal Verified Engine, and Salam Halal KL, to help consumers validate the halal status of products.

Among others, this research focuses on the Verify Halal app because of its popularity and reliability. Developed and launched on May 26, 2017, by Serunai Commerce, the Verify Halal app is part of a larger attempt by the Malaysian government to create a quality halal repository. It is an initiative under the Islamic Development Department (JAKIM) to build a quality halal repository for both local and international users. The app aims to help users verify the halal status of food and beverage goods, food facilities, slaughterhouses, consumables, cosmetics, pharmaceutical products, and halal-certified logistical services. Verify Halal is a mobile application that enables customers as well as suppliers to instantly verify the halal status of a product by simply scanning the barcode using their smartphones. The Verify Halal app links up with 72 international halal certification bodies recognized by JAKIM, including those in Bosnia, South Africa, New Zealand, Spain, and Austria. The software can be downloaded from the Google Play Store for Android devices and the Apple App Store for iOS devices (Serunai, 2017).

This study focuses on the Verify Halal app for several reasons. Firstly, this app has received a 4.1-star rating on app stores, the highest compared to its counterparts. Secondly, Verify Halal is partnered with JAKIM and other international halal certification organizations. Thirdly, this app is more popular as it can be used by both Android and iPhone users. Furthermore, the Verify Halal app has more than 6,000 local companies linked to the app, as well as 60 affiliated global certification bodies (Syed Azhar, 2017). With this app, consumers can either scan and verify halal products or search for halal products and premises using the search bar. The search bar also allows consumers to search through other categories, which can be selected using the filter option on the right side of the search bar. These innovations benefit consumers by providing updated information about the halal status of various products, companies, and food premises, complete with the halal certificate's expiration dates. Thus, halal-conscious consumers can avoid receiving false information about food and other products (Tarmiji, 2021). The primary goal of halal-based apps like the Verify Halal app is to increase the demand for and supply of halal goods and services. Because of the importance of encouraging more well-informed halal purchasing, it is pertinent to learn more about the elements that could potentially promote their acceptance. Hence, this research focuses on identifying the factors that contribute to the acceptance of the Verify Halal app among Malaysian consumers.

Evidently, Allah Subhanahu Wa Ta'ala (SWT) says in Surah Al-Baqarah verse 168, "O mankind, eat from whatever is on earth [that is] lawful and good and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy." This Quranic verse emphasizes the significance of consuming lawful (halal) food and abstaining from what has been prohibited (haram), such as pork, carrion, blood, and animals slaughtered in the name of others than Allah. Also, Allah says in Surah Al-Hujurat verse 6, "O you who have believed, if there comes to you a disobedient one with information, investigate, lest you harm a people out of ignorance and become, over what you have done, regretful." In line with the aims of the Verify Halal app, this verse encourages Muslims to verify information and not to act upon it hastily, especially if it comes from a source that may not be trustworthy. This elucidates the need for halal consumers to constantly use relevant halal apps to ascertain the halal status of products, particularly doubtful products marked with the halal logo. One cannot simply accept news without verifying it. In this context, a halal app is important to verify the halal status of certain products. Thus, investigating the factors contributing to the acceptance of the Verify Halal app is timely.

To make this study reader-friendly, it has been structured into five main sections, including this introductory section. The subsequent section reviews literature covering the technology acceptance model and factors contributing to the acceptance of the Verify Halal app. The next section on data and methodology discusses the research design, research population, research instrument, sample size, method of data collection, and

data analysis techniques. The following section presents and interprets the analyses of the data collected for this study using SPSS software. This section also discusses the findings and highlights the implications of this study. The final section concludes this study with relevant recommendations.

LITERATURE REVIEW

Technology Acceptance Model

The Technology Acceptance Model, commonly referred to as TAM, is a theoretical framework well-known among academics and researchers that explains the determinants of user acceptance of information technology (Usman et al., 2022). TAM, initially introduced by Davis in 1989, has undergone several iterations of adjustment and expansion since its inception (Olumide, 2016). According to Davis (1989), TAM was developed based on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980), known for clarifying the relationship between attitudes and behaviors in human action. TRA suggests that a person's attitude and subjective norms determine their behavioral intentions, while their specific behaviors are determined by these intentions. Numerous studies have shown that TRA can accurately predict and explain individual behavior (Aziz et al., 2020). Similarly, a study by Rahmat (2019) documents that TRA holds an individual's perception and reaction to something can predict their attitude and behavior. These perceptions and reactions can affect one's attitude toward accepting information technology.

In agreement with TRA, TAM identifies two primary factors that can influence an individual user's behavior: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). These constructs shape users' attitudes, which in turn influence their behavioral intentions to use and ultimately adopt the technology (Usman et al., 2022). Perceived Ease of Use (PEOU) is the extent to which a person anticipates minimal effort to achieve desired results when employing a given technology, while Perceived Usefulness (PU) refers to users' confidence that adopting a certain method will improve their productivity and job performance (Davis, 1989). In other words, the easier and more beneficial people find a technology, the more likely they are to use it. In the context of this study, when halal consumers perceive that halal verification apps are useful and easy to use, they will be more willing to use them.

Interestingly, several studies across different domain have been conducted to determine the validity of TAM. For instance, Amin et al. (2022) employ TAM to explore factors determining consumer acceptance of online Islamic fixed deposit accounts. They find that that perceived usefulness, perceived ease of use, and attitude are instrumental in determining consumer acceptance. As in many other studies, TAM variables have been extended to the context of online Islamic fixed deposit accounts by adding an attitude construct to the model. In addition, Holden et al. (2010) reviews the application of TAM frameworks in health care. It was revealed that some TAM interactions were significant on several occasions, while others are inconsistent. Results indicate that TAM accurately predicts health IT adoption and use, but it might be improved upon by incorporating a few key changes. Su and Li (2021) examined the application of TAM in online entrepreneurship education for new entrepreneurs. They find that perceived usefulness, perceived ease of use, and perceived credibility have a positive impact on the behavioral intention of the users. Given the applicability of this theory, this theory will serve as a theoretical framework for this study.

Factors Contributing to the Acceptance Verify Halal App

Religiosity

According to Hutagalung et al. (2020), religiosity is manifested in responses, observations, ideas, emotions, and obedience to the sacred. Worthington et al. (2003) define religiosity as the extent to which an individual adopts and lives by a set of religious values, beliefs, and practices. Religiosity denotes an individual's adherence to religious values and beliefs. For instance, highly religious people tend to follow the rules and codes of conduct that are set by their religious doctrines. Conversely, people with weak religious tenets may feel at liberty to act in other ways. Since people vary in their level of religiosity, their acceptance and preferences will also show that variation (Wang et al., 2020). Mokhlis (2008) argues that religiosity should be considered when trying to understand consumer behavior. In agreement with Mukhlis, Khraim (2010) indicates that religiosity is a significant factor determining the behavior of consumers. Accordingly, Razzaque and Chaudhry (2013) find that religious commitment appears to be an antecedent to Muslim consumers' involvement in the brand decision but not in the product decision. This is because the concept of religious value has been shown to influence customers' preferences and aversions to particular products (Baazeem, 2018). For example, religiosity is the basis for a Muslim consumer to choose halal products as this shows his/her commitment to Islamic principles (Nurrachmi & Setiawan, 2020). Ambali and Bakar (2014) reveal that approximately 75% of Muslim emigrants in the US adhere to religious dietary restrictions. This demonstrates the importance of halal food to Muslims regardless of location.

As a direct consequence of this, we can conclude that Muslims attach a great deal of importance to the discussion of food and consumption. It is inevitable that the Verify Halal app is one of a kind and distinctive in the sense that it is tied to religious commitments and sentiments. Therefore, religiosity could be a crucial reason why Muslims and halal consumers would adopt this new technology. In line with this argument, Marso and Hasan (2020) find that religiosity has a positive effect on participants' attitude toward purchasing halal products. Similarly, Amini et al., (2020) find that religiosity has a positive effect on behavioral intention toward Islamic banking industry. Yusoff and Kamdari (2014) claim that religiosity is an important element when selecting Islamic products. Hence, religiosity could contribute to the acceptance of the Verify Halal app, leading to the following hypothesis:

H1 Religiosity contributes positively and significantly to the acceptance of Verify Halal app.

Trust

Trust plays a significant role in accepting the Halal Verify app. The concept of trust has been conceived in various ways, both theoretically and practically, by earlier studies. According to Aljazzaf et al. (2010), defining trust is challenging because there are numerous definitions, and the meaning of "trust" varies significantly depending on the context and situation. Trust in technology, in its broadest sense, is a readiness to rely on a particular piece of technology despite the existence of undesirable outcomes or risk. Trust implies a willingness to rely on another party because of certain characteristics (McKnight et al., 2009). For instance, in this research, in the absence of JAKIM's halal logo, consumers will depend on halal verification apps to provide reliable and accurate information. People trust technology when they depend on it or are willing to depend on it to perform a certain task (e.g., using halal apps to verify the halal status of a product) because of its favorable attributes.

The impact of trust on people's propensity to use new technologies, online tools, and electronic services has received significant attention in previous studies (Mustun, 2021). Nwaiwu et al. (2020) reveal that trust significantly influences the willingness to adopt and use digital technologies that generate, collect, and

transmit user data. When new technology is introduced, users may face some degree of uncertainty (Brar et al., 2022). As in this study, halal consumers may experience some hesitancy in using halal verification apps as they are unsure whether these apps are reliable. Consequently, trust has been taken into consideration as a crucial factor that could contribute to the acceptance of halal verification apps. The more Muslim consumers trust these apps, the more likely they are to use them and vice versa. In the case of halal food, Muslim consumers are strongly encouraged to manage their diet according to Islamic teachings. Thus, if they believe that halal verification apps may assist in this regard, trust should build up, leading to acceptance. Based on the descriptions above, the hypothesis to be tested here is:

H2 Trust contributes positively and significantly to the acceptance of Verify Halal app.

Perceived Usefulness

Perceived usefulness is another important variable that contributes to the acceptance of halal verification apps. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). It is the assumption that the use of a certain technology would result in favorable outcomes. Perceived usefulness is a crucial component in the process of adopting new technologies and is significant given the important productivity and higher performance that can be achieved regardless of mileage and time limits (Amin et al., 2022). According to TAM, perceived usefulness is also influenced by perceived ease of use because the easier a system is to use, the more valuable the system is thought to be. A sense of ease in use provides a sense of comfort when it comes to the acceptance of technological systems (Rahmat, 2019).

Several empirical studies conducted on TAM point to perceived usefulness as a key component in influencing the user's propensity to adopt and employ new technology. In fact, TAM predicts that a high perceived usefulness will eventually lead to increased positive attitudes, resulting in higher rates of adoption of new technologies. In the context of this study, this applies to the Verify Halal app. Empirically, Caffaro et al. (2020) examine the factors affecting farmers' intentions to adopt Smart Farming Technologies (SFTs) to improve production output, minimize costs, and preserve resources. They find that perceived usefulness affects farmers' intentions to adopt technology for these purposes. Having investigated the drivers and inhibitors for digital payment adoption in Malaysia, Balakrishnan and Shuib (2021) find that perceived usefulness directly affects users' readiness to adopt digital payment. Amsal et al. (2021) investigate the influence of interactive learning and perceived usefulness on perceived satisfaction with e-learning. They find a significant effect of interactive learning and perceived usefulness on e-learning perceived satisfaction. Hence, the hypothesis to be tested in this regard is:

H3 Perceived usefulness contributes positively and significantly to the acceptance of Verify Halal app.

Perceived Ease of Use

Another crucial variable that could contribute to the acceptance of Halal Verify apps is perceived ease of use. This variable refers to the extent to which a person believes that using a particular technology would be free of effort (Davis, 1989). Perceived ease of use is the degree to which a person believes that utilizing a particular technology will make it simpler for them to carry out their work and facilitate the execution of their duties, which then influences the behavior of the user. Malik et al. (2017) note that perceived ease of use is the extent to which a person believes they can utilize a piece of technology with minimal effort. Perceived ease of use can be measured through several indicators, such as ease of learning, ease of control, ease of understanding, flexibility, ease of application, and overall ease of use.

Among others, Malik et al. (2017) find that customers, especially the elderly, are more inclined to download an app if it is straightforward to use. Balakrishnan and Shuib (2021) find that perceived ease of use directly affects users' readiness to adopt digital payment. Tang (2016) notes that the adoption of an app will be met with pleasure if it is simple to use. Consumers are more likely to make frequent use of a mobile app if they find it intuitive and simple to operate. Consequently, halal consumers have an urgent need for readily available and accurate information that can help them check the halal status of what they purchase at any time (Mustun, 2021). A smart halal status checker, like halal verification apps, that is user-friendly and meets the needs of halal customers will play a significant role in shaping people's decisions to utilize and accept these technologies. Based on the foregoing discussions, the hypothesis to be tested is:

H4 Perceived ease of use contributes positively and significantly to the acceptance of Verify Halal app.

Social Influence

Social influence has been reported as another important variable that could contribute to the acceptance or adoption of new technology. Social influence is the process by which an individual's attitudes, beliefs, thoughts, feelings, and behavior are modified by the presence, opinions, or actions of others (Kalia et al., 2023). According to Gao et al. (2020), the term "social influence" is best described as the impact that people have on each other's thoughts, feelings, and actions. Today, everyone can exchange information, opinions, and knowledge about products, services, and brands on worldwide platforms, such as social media like YouTube, TikTok, Instagram, Facebook, and others. These platforms are globalized and allow customers to share information instantly. Therefore, if a unique idea does well in the general opinions of people, particularly when taking into consideration the reviews and recommendations of peers, then it is more probable that individuals will consider accepting such an idea.

In the context of this study, the acceptance of halal verification apps is clearly affected by the reviews and recommendations of peers. According to Hassan et al. (2022), Muslims place a high dependence on the opinions of those close to them and those who are knowledgeable about Islamic law when making decisions regarding whether a given food source is permissible for consumption or not. Nwaiwu et al. (2020) find that social influence is a crucial component that can influence consumer behavioral intention to adopt digital technologies. Nwaiwu et al. note that this variable appears to be more essential than trust as a consideration for accepting technology by users. Since halal consumers are always willing to comply with Islamic dietary laws, peer influence on the adoption of apps that could help them verify the source of what they consume is certainly likely to grow, especially given the emphasis Islam places on brotherhood. Hence, the hypothesis to be tested in this regard is:

H5 Social Influence contributes positively and significantly to the acceptance of Verify Halal app.

Conceptual framework

The study investigates the factors contributing to the acceptance of the Verify Halal app among Malaysian Muslim consumers based on the extended Technology Acceptance Model (TAM) by Davis (1989). As shown in Figure 1, the conceptual framework has been developed based on the reviewed literature, consisting of five independent variables, namely religiosity, trust, perceived usefulness, perceived ease of use, and social influence. In addition, the framework includes one dependent variable, which is the acceptance of the Verify Halal app. This scope can be considered new research, and it is found to be imperative as no research has been done on the specific dimensions mentioned. The suggested model considers five criteria, but we adopted only four criteria from Malik et al. (2017), namely perceived ease of use, perceived usefulness, social influence, and trust, while one variable was adopted from Mustun (2021),

namely religiosity. In this conceptual framework, there are five independent variables, while the acceptance of the Verify Halal app is the dependent variable.

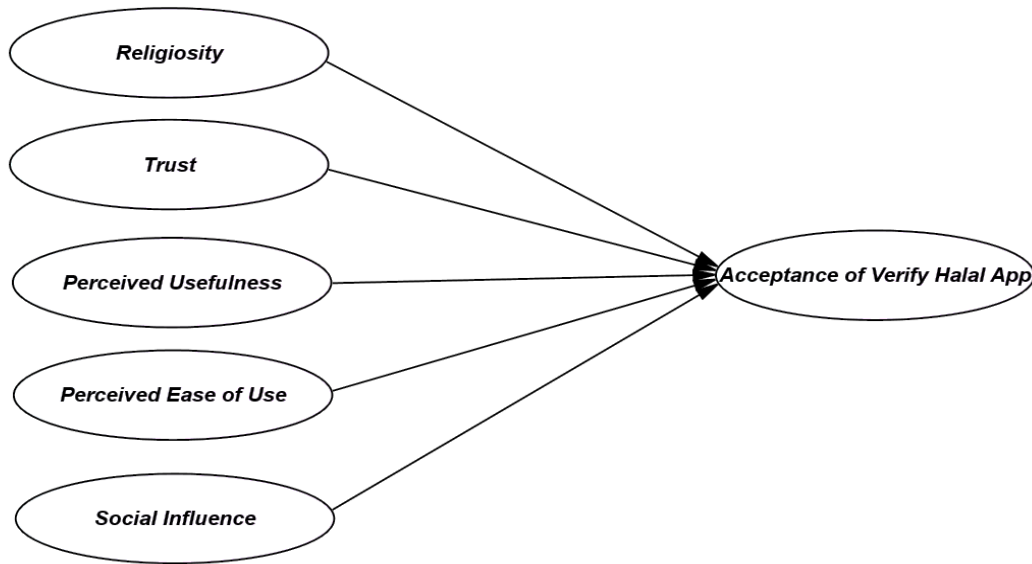


Figure 1. Conceptual Framework

DATA AND METHODOLOGY

The quantitative research design has been adopted for this study due to its suitability. The quantitative approach involves the systematic gathering and analysing of numerical information (Bhandari, 2023). According to Mertler (2016), a quantitative research approach is considered appropriate whenever researchers intend to collect and analyse numerical data to explain, predict, interpret, or describe a phenomenon of interest. Malaysian Muslim consumers who are above 18 years of age and are familiar with the Verify Halal app in the Klang Valley area constitute the population of this study. Convenience sampling, which is one of the non-probability sampling techniques, was used in selecting respondents for this study (Jaiyeoba et al., 2023). The adopted sampling technique is justified for its accessibility and practicality in recruiting a diverse range of halal consumers from various settings, thereby ensuring representation from different demographics, geographic locations, and socio-economic backgrounds (Weigold & Weigold, 2022).

Data were collected through both online and offline distribution of questionnaires. For the online survey, the link to the questionnaire prepared using Google Forms was used to invite respondents to participate in this study. By using an online platform to distribute the questionnaire, the target respondents could answer the survey anytime and anywhere (Fleetwood, 2021). To get more respondents, a face-to-face questionnaire was also implemented by distributing 50 questionnaires to the target respondents. However, only 24 duly completed questionnaires were returned. In total, 250 completed questionnaires were received for this study. However, 65 outliers detected based on the analyses undertaken in SPSS were completely removed. This left the researchers with 185 responses used for the inferential analyses performed for this study.

Following data collection, the data were processed using the Statistical Package for the Social Sciences (SPSS). The main analyses performed on the data collected for this study included data screening,

exploratory factor analysis, reliability testing, and multiple regression analysis. The performance of data screening indicated that there was no issue of missing data, and the normality tests confirmed adherence to a normal distribution. Additionally, common method variance was not an issue, as the overall variance of Harman's single-factor analysis was approximately 49%. Following these initial screenings, the data were analysed using exploratory factor analysis, reliability analysis, and multiple regression analysis, as reported in the subsequent section.

ANALYSIS

Exploratory Factor Analysis

Exploratory factor analysis (EFA), a multivariate statistical approach, is an important tool in the evaluation and validation of theories and assessments (Watkins, 2018). Exploratory factor analysis was conducted using principal components analysis (PCA) based on Varimax orthogonal rotation to analyse the questionnaire items. In this study, Principal Components Analysis (PCA) was carried out on all the 30 variables using SPSS with 0.40 as coefficient of an absolute value. The Kaiser-Meyer-Olkin (KMO) metric evaluates the suitability of data for factor analysis by assessing the intercorrelations among variables in the dataset (Faris et al., 2022). The value of KMO is 0.946 indicating that the sample was adequate. Other than that, the result of Bartlett's test is significant with p-value <0.05, suggesting that there are good correlations between the variables. In addition, the communalities values with the average score that is greater than the benchmark of 0.7 (Che Embi et al., 2019) reveal that there is a reasonable degree of variance in each variable. Therefore, the EFA results indicate that the data collected are appropriate for further analysis. To gain a better understanding of the correlations between the extracted factors, factor rotation techniques using Varimax was applied. Accordingly, factor 1 accounts for 15.17%, factor 2 accounts for 14.07%, factor 3 accounts for 13.69%, factor 4 accounts for 13.22%, factor 5 accounts for 8.88%, and factor 6 accounts for 8.75%, respectively. The sum of all the components accounts for 73.804% of the overall variation. Similarly, the Cronbach's alpha coefficient values are all above 0.7, indicating high levels of internal consistency and reliability among scale items. Meanwhile, Table 1 presents the rotated component matrix of the actual factor analysis performed based on PCA as well as reliability tests.

Table 1
Exploratory Factor Analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Cronbach's Alpha
PEU5	.718						0.933
PEU4	.707						
PEU3	.660						
PEU1	.659						
PEU7	.657						
PEU6	.627						
SI7		.773					0.888
SI3		.759					
SI1		.699					
SI4		.698					
SI2		.692					
SI6		.564					

Religiosity2	.803			
Religiosity1	.722			
Religiosity3	.699			0.899
Religiosity6	.692			
Religiosity4	.679			
Trust 6		.790		
Trust 7		.753		
Trust 3		.751		0.900
Trust 4		.705		
Trust 2		.562		
Acceptance1			.758	
Acceptance4			.596	0.864
Acceptance2			.593	
Acceptance3			.553	
PU2			.720	
PU3			.637	0.898
PU1			.571	
PU4			.569	

Note: PEU = Perceived Ease of Use; SI = Social Influence; PU = Perceived Usefulness

Multiple Regression Analysis

Multiple Regression Analysis was conducted to discover the relationship between one dependent variable, which is the acceptance Verify Halal app, and several independent variables, covering religiosity, trust, perceived ease of use, perceived usefulness, and social influence. The coefficient of determination result, R^2 , is 0.675, and adjusted R^2 is 0.666. The R^2 of 67.5% suggests that independent variables explain an accumulated variance of 67.5% in dependent variable. Besides, the outcome of Durbin-Watson (DW=1.94) test used to determine whether the output of a regression model is autocorrelated indicates that there is no autocorrelation (Kenton, 2023). The ANOVA result display that the model is significant, $f(5,179) = 74.282$, $p < 0.05$. This result confirms that further analysis can be conducted using our data. Furthermore, the results of multiple regression on factors contributing to the acceptance of Verify Halal app using data collected from Muslim consumers are presented in Table 2. As shown, the results suggest that religiosity is positively and significantly related to the acceptance of Verify Halal app ($\beta = 0.405$, p -value = 0.001). Similarly, the results indicate that perceived usefulness is positively and significantly related to the acceptance of Verify Halal app ($\beta = 0.160$, p -value = 0.038). In addition, the results confirm that perceived ease of use is positively and significantly related to the acceptance of Verify Halal app ($\beta = 0.317$, p -value = 0.001). Moreover, the results show that social influence is positively and significantly related to the acceptance of Verify Halal app ($\beta = 0.118$, p -value = 0.031). Meanwhile, the results also reveal that trust is positively and significantly related to the acceptance of Verify Halal app ($\beta = 0.118$, p -value = 0.031).

Table 2
Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value
	β	Std. Error	Beta		
Constant	.370	.222		1.666	0.098
Religiosity	.405	.066	.386	6.122	0.001

Trust	-0.83	.064	-0.88	-1.293	0.198
Perceived Usefulness	.160	.077	.160	2.086	0.038
Perceived Ease of Use	.317	.077	.333	4.133	0.001
Social Influence	.118	.054	.141	2.181	0.031

DISCUSSION OF THE FINDINGS

This study seeks to investigate the factors contributing to the acceptance of the Verify Halal app among Malaysian Muslim consumers in the Klang Valley area. The findings show that four independent variables—religiosity, perceived usefulness, perceived ease of use, and social influence—contribute positively and significantly to the acceptance of the Verify Halal app. However, one factor, trust, contributes negatively and insignificantly to the acceptance of the app. Specifically, the result that religiosity is positively and significantly related to the acceptance of the Verify Halal app accentuates that Muslim consumers in the Klang Valley area use the app because of their faith, the need to comply with religious tenets on the consumption of halal products, and the need to avoid non-halal and doubtful products. This finding is congruent with research by Marso and Hasan (2019), which revealed that religiosity considerably and positively influences participants' attitudes toward purchasing halal products. The finding also aligns with the study by Yusoff and Kamdari (2014), which claims that religiosity is an important element when selecting Islamic products.

Furthermore, the result that perceived usefulness is positively and significantly related to the acceptance of the Verify Halal app indicates that the app is extremely useful for Muslim consumers when shopping for halal products. The app helps Muslim consumers in the Klang Valley area purchase halal products more efficiently, saves them time while shopping, and assists them in gaining access to needed information about halal products. Interestingly, this finding supports the result of Balakrishnan and Shuib (2021), which found that perceived usefulness directly affects users' readiness to adopt digital payment. The finding also aligns with the result of Amsal et al. (2021), which revealed a significant effect of perceived usefulness on e-learning perceived satisfaction. Moving further, the result that perceived ease of use is positively and significantly related to the acceptance of the Verify Halal app shows that Muslim consumers in the Klang Valley area believe the app requires minimal mental effort to operate during shopping. They also believe the app is simple and straightforward to use because they can just scan the barcode to get information about halal products, the app is flexible to interact with, and they can get information about halal products quickly. This finding is congruent with Tang (2016), who documented that the adoption of an app will be met with pleasure if it is simple to use.

Moreover, the result that social influence is positively and significantly related to the acceptance of the Verify Halal app indicates that Muslim consumers in the Klang Valley area agree that social influence is a factor in adopting the app. The judgment of others, such as friends, relatives, and people on social media, indeed matters for adopting this app by Muslim consumers in the Klang Valley area. This finding is consistent with a study by Hassan et al. (2022), which documented that Muslims place a high dependence on the opinions of those close to them and those knowledgeable about Islamic law when making decisions regarding whether a given food source is permissible for consumption or not. The finding also aligns with the study by Nwaiwu et al. (2020), which revealed that social influence is a crucial component that can influence consumer behavioral intention to adopt digital technologies.

Finally, trust was found to have a negative and insignificant influence on the acceptance of the Verify Halal app. This result indicates that Muslim consumers in the Klang Valley have trust issues with the app. They use the app not because of their trust in it, but due to other factors such as faith, perceived ease of use, perceived usefulness, and social influence. This finding contradicts the study by Nwaiwu et al. (2020), which revealed that trust has a significant influence on the willingness to adopt and use digital technologies. Based on the reviews and comments left by Verify Halal app users, some information obtained about a product after scanning, for example, was not up to date. Some products with the halal logo appeared without the logo on the system. These and other similar issues create confusion for users about whether a product is truly halal or not. In truth, every app, including the Verify Halal app, has its pros and cons. Additionally, not every product can be verified using this app, only products registered with it. Users also argue that the rating of the Verify Halal app is 4.1 stars, which is average, as a good rating for an app should be 4.5 and above with fewer 1-star reviews. Perhaps these issues cause more people to distrust the app.

THEORETICAL AND PRACTICAL IMPLICATIONS

Theoretically, the current study has contributed significantly to the body of knowledge. This study is the first quantitative research built on the Technology Acceptance Model (TAM) to investigate the acceptance of the Verify Halal app. Based on the results of the analyses performed, it has been noted that the two main constructs of TAM, perceived usefulness and perceived ease of use, contribute positively and significantly to the acceptance of the Verify Halal app. Hence, the proposed model makes an important contribution to the emerging literature on technology acceptance, especially regarding Verify Halal apps.

Practically, the findings of this study have serious implications for several entities, namely halal business owners, consumers, halal app developers, and government entities. The study suggests that halal business owners need to support this app by ensuring that the information about their products listed on the app is accurate, current, and in compliance with halal standards (Munawar et al., 2017). Furthermore, halal business owners can follow the steps of modern stores like McDonald's and KFC, offering exclusive discounts or incentives to app users to encourage app usage. This suggests that halal business owners should embrace the Verify Halal app to meet the needs of halal-conscious consumers and capitalize on the app's potential to increase customer loyalty and business growth.

Additionally, the findings of this study have significant implications for halal consumers. Halal consumers should prioritize using this app frequently to search for and purchase halal-certified products, thereby contributing to the development of an effective community for other users (Haque et al., 2021). Providing feedback on product listings and accuracy can help improve the app's database (Bakar et al., 2015). Sharing positive experiences and evaluations on social media platforms can also increase the app's popularity and encourage others to adopt it. By implementing these suggestions, consumers can play a crucial role in enhancing the utility of the Verify Halal app and promoting its popularity.

Moreover, this study has implications for halal app developers. Based on the findings, perceived ease of use and perceived usefulness contribute positively to the acceptance of halal apps. Hence, halal app developers need to prioritize and improve these key factors to ensure consumers continuously use the apps. A user-friendly interface is essential for mobile applications in today's digital world, as it significantly impacts user satisfaction and app success. A well-designed and intuitive interface will improve user experience and promote higher acceptance rates (Hassenzahl, 2008). Usability and user-centric design principles will not only increase initial engagement but also generate positive reviews and referrals, contributing to the Verify Halal app's market reputation and growth.

Furthermore, the findings of this study also have implications for government entities. Governments across the globe are progressively acknowledging the significance of supporting endeavors that appeal to a wide range of groups, including the Muslim population. Various forms of financial incentives, such as grants and collaborations, can be provided to facilitate the advancement and dissemination of applications like the Verify Halal app. Additionally, the study's findings indicate that consumers do not trust this app. Hence, government support could increase the level of trust among users by constantly affirming the validity of this app and its adherence to halal standards. The legitimacy and usability of the app are enhanced through collaborative endeavors with regulatory agencies, which could guarantee compliance with halal certification standards.

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

This study was conducted to identify the factors contributing to the acceptance of the Verify Halal app among Malaysian Muslim consumers. To address the research issue, the researchers reviewed pertinent studies in the domain, adopted a quantitative research design, developed a survey questionnaire based on the previous literature, used the developed questionnaire to obtain data from respondents, and analyzed the collected data using SPSS. The results show that religiosity, perceived usefulness, perceived ease of use, and social influence contribute positively and significantly to the acceptance of the Verify Halal app, whereas trust contributes negatively and insignificantly. Meanwhile, this study acknowledges several limitations. Firstly, the data used for this study were collected from the Klang Valley area with a small sample size of 185 respondents. Hence, future researchers may extend their data collection beyond the Klang Valley community to encompass a wider geographic scope.

Secondly, this research is confined to Malaysian Muslim consumers only. It is suggested that future studies expand to include non-Muslim halal consumers as well. Investigating how the app can cater to a broader audience while preserving its core functionality and purpose is crucial for fostering multicultural acceptance and understanding (Hair et al., 2019). Moreover, this study has reported the influence of the five factors incorporated—religiosity, trust, perceived usefulness, perceived ease of use, and social influence—on the acceptance of halal apps. Future researchers may consider studying additional factors, such as awareness and preference, which could also be crucial to the acceptance of halal-based apps. Lastly, this study utilizes quantitative methods to obtain and analyze the data. To enhance the impact and inclusivity of the Verify Halal app, several promising avenues for future research deserve attention. For instance, researchers may consider conducting interviews with both the public and businesses, which can provide valuable insights into user perceptions, satisfaction levels, and challenges faced when using the app (Creswell and Creswell, 2017). Qualitative feedback can inform app improvements and strategic enhancements.

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