



Adoption of Digital Banking Services Provided by the Licensed Non-Banking Consortiums: The Malaysians' Perspective

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ABSTRACT

With the approval of the digital banking license by Bank Negara Malaysia (BNM) in 2022, this research investigates the impact of various technological and psychological factors, namely consumers' expectations on the services, data protection and security, social influence, and company image, on Malaysians' perceptions of the adoption of digital banking services by non-banking consortiums. This research adopted and modified the Technology Acceptance Model (TAM). The empirical data of 360 respondents has been collected through a self-administered questionnaire in the form of a five-Likert scale. A quantitative approach has been employed. Normality and reliability tests were conducted before the correlation and regression analyses to ensure the results are robust. All four determinants (consumers' expectations of the services, data protection and security, social influence, and company image) are significantly positively correlated to Malaysians' perceptions of the adoption of digital banking services provided by non-banking consortiums in Malaysia. The consumers' expectations of the services prove to be the most impactful determinant. Hence, the consortiums need to be alerted that users are attracted to productivity maximisation, data security, and company image, thereby drawing distinguished consumer value schemes. Policymakers are to continuously enhance and support the digital infrastructure while ensuring system security through regulations.

Keywords: *Adoption of Digital Banking Services, Non-banking Consortiums, Consumers' Expectations, Data Protection and Security, Social Influence, Company Image, Malaysia*

1. Introduction

The Central Bank of Malaysia, Bank Negara Malaysia (BNM), announced the five successful applicants for the digital banking licences on April 29, 2022. The five consortiums are namely Boost and RHB, GXS (Grab X Singtel) Bank and Kuok Brothers, SEA Limited and YTL (Yeoh Tiong Lay) Digital Capital, AEON and MoneyLion, and lastly, KAF Investment Bank. However, many well-known digital competitors, such as Bigpay, Genting, iFast, and others, have failed to attain the digital banking license (Kumar, 2022). The governor of the central bank, Nor Shamsiah Yunus, stated that virtual banks are expected to be upgraded to the next level and deliver both individuals and corporations with their custom solutions supported by data analytics. With the licences achieved, the consortiums set about undergoing a period of operational readiness that would be endorsed by BNM through an audit (Bank Negara Malaysia, 2022). Research added that even though the operations are expected to commence by 2023 to 2024, it will take the consortiums about three to six years to break even (The Edge Markets, 2022). This is due to the regulatory limits imposed on the activities of the digital banks (Murugiah, 2022).

Although the trend of digital banking licences has been a trend in countries such as Hong Kong, Germany, Singapore, and Malaysia for a long time (Kerse & Jenik, 2020). These licences serve a useful purpose in countries with fewer than five traditional banks operating in them, as they allow them to enhance the modernity and quality of financial services, boosting consumer satisfaction and loyalty. RHB and Boost, a consortium partner, are aiming to develop a more inclusive financial sector in Malaysia, focusing on the underserved, unserved, and unbanked segments with the assistance of Boost's profound experience in fintech (Huong, 2022). Boost has laid the foundation for a digital bank through a lending business called Boost Credit, developing a vast digitally engaged customer base with information for consumer experience enhancements for their upcoming digital bank system. Tan Sri Nor Shamsiah, the governor of BNM, foresees a possibility of an increment in economic participation by adopting digital technology more widely for daily transactions.

According to Guild (2022), organisations with vast services such as games, delivery, retail, and others are partnering with huge and wealthy companies to deliver a wider range of financial services to their user platforms. This can be more convenient and favourable as opposed to traditional banks, and serves as a bait to lure and attract consumers due to their tendency to favour legitimacy, authenticity, and the user-friendliness of the application and services. Due to the COVID-19 pandemic, many organisations have implemented virtual and online databases and platforms for the continuation of their regular operations. Companies such as Grab, a popular e-hailing and delivery application, have an existing digital platform with vast capital and are a strong organisation to be expanded more in digital banking (Guild, 2022). However, there are several challenges that the licenced digital banks may encounter. The stocks of Grab have plummeted since it debuted on the Nasdaq market at the end of 2021, suggesting that investors are yet to be convinced

and are doubtful about the future of digital banking. This is due to the lack of infrastructure, economic issues, and regulatory limits imposed by the Malaysian Communications and Multimedia Commission (MMC) and local authorities.

Additionally, the household debt ratio in Malaysia is forecast to rise due to the continuous increment in loan demand. Additionally, there are regulatory limits imposed by BNM on the activities, such as a cap on the assets of the digital banks at RM3 billion during the beginning phase of the operations until the middle of 2026 or 2029 (Birruntha, 2022) and a minimum amount of capital funds of RM100 million unimpaired by losses in the first five years of operation (Huong, 2022). Additionally, there are other obstacles, such as price wars and the powerful market share of popular brick-and-mortar banks, that need to be overcome before becoming a profitable business.

This study examines the challenges faced by the consortiums in their development process of digital banks, such as online frauds and scams that deceive individuals and have their money transferred off. A Malaysian doctor has lost RM13,000 from her CIMB bank account, claiming it was transferred three times through the CIMB Clicks system without any TAC (Transaction Authorisation Code) verification. There are also reports of SMS scams claiming to be from government agencies and financial institutions offering benefits and requiring data such as phone numbers, 6-digit PINs, and OTPs to trick victims (Malay Mail, 2022).

During the digital era, tasks have been made more convenient and efficient due to technological advancements, and that means individuals can have the choice not to visit a physical destination to perform the exact same task when it can be done online and hassle-free. Apart from that, given there are downsides such as security issues and the scarcity of well-developed infrastructures, it is vital for individuals to understand what the upcoming digital banking is about, their differences compared to the current online services, and the multiple factors that will determine their perceptions of the upcoming digital banking services, including some recommendations and strategies. Hence, this study examines the determinants of Malaysians' perception of digital banking services offered by non-bank entities, such as consumer expectations, data protection and security, social influence, and company image.

2. Literature Review

2.1 Theoretical Framework

Digital banking has been transforming consumer interfaces, with digital gadgets such as mobile phones, computers, and the internet becoming a significant means of providing multi-channel services to consumers (Cortiñas, Chocarro, & Villanueva, 2010). To increase consumer satisfaction and loyalty to the bank (Guru, Shanmugam, Alam, & Perera, 2003), frameworks such as the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989) and the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) are often relied on by many researchers (Lee, Kozar, & Larsen, 2003). The TAM model is based on the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) and is impacted by multiple factors, such as ease of use, perceived usefulness, and attitude towards service. Fortes and Rita (2016) added that the model has expanded to accommodate new factors such as perceived risk, trust, and convenience. Understanding the assumptions, benefits, and limitations of the TAM model is still necessary for research on user acceptance of new technology (Chuttur, 2009).

The study of Alhassany and Faisal (2018) finds that perceived ease of use is the most influential variable in the intention to use relevant technological platforms, followed by subjective norms, perceived usefulness, perceived risk, and personal innovativeness. The study agrees with six previous studies and contradicts two other studies, which have found social influence has a negligible effect on the intention to adopt the new technology. These results will provide valuable information for financial institutions on modifying their marketing strategies and strategic goal implementation in the digital era (Hu, Ding, Li, Chen, & Yang, 2019).

The four independent variables selected and secured for this study are consumers' expectations of the services, data protection and security, social influence, and company image. These variables are tailored to a combination of multiple core elements from the TAM model, allowing a quicker response and a higher response rate. The five independent variables listed in the framework of Alhassany and Faisal (2018) are subjective norms, perceived usefulness, perceived ease of use, perceived risk, and innovation. The company image element from Kang and James (2004) is an important element to determine the attitude and choice of individuals towards technology acceptance. The four independent variables are developed to determine their relationship to the dependent variable.

The TAM model is used to select elements for a digital banking study. The innovativeness element from the study of Alhassany and Faisal (2018) has been removed as it is irrelevant to this digital banking study. The service quality element from the study of Ahmad, Bhatti, and Hwang (2020) is not selected as digital banks are yet to be premiered and individuals will not be able to perceive the quality of the technology when they have not experienced the services on the new platform. Different studies will adapt to different variable attributes, so certain irrelevant determinants must be filtered.

2.2 Consumers' Expectations on Services

Warshaw and Davis (1985) proposed that behavioural expectation is a precise forecaster for habitual behaviours, goal-type actions, and behaviours where individuals expect their intention to change in a predictable way. This element captures the uncertainty of the behaviour outcomes of upcoming technology, allowing individuals to select new technologies and apply them quickly to have a positive impact on the perceived usefulness of technology (Aburbeian, Owda, & Owda, 2022; Venkatesh, Maruping, & Brown, 2006).

Two fundamental apparatuses, mental simulation and extrapolation tactics, are explored to further express how behavioural expectations can better forecast behaviours when information is limited (Venkatesh, Brown, Maruping, and Bala, 2008). Mental simulation helps reduce uncertainty by imagining possible outcomes and considering events that might prevent behavioural performance (Lipshitz & Strauss, 1997). Extrapolation tactics consist of both assumption-based reasoning and statistical estimation, which perform tasks differently (Allaire & Firsirotu, 1989). Assumption-based reasoning pictures a future scenario based on assumptions, while statistical estimation incorporates the prediction of future events using past or present information that is deemed factual (Lipshitz & Ben Shaul, 1997; Lipshitz & Strauss, 1997).

The statistical estimation from extrapolation tactics is more relevant to this study of digital banks as it holds the same concept of predicting the embracement of digital banks by observing the present scenario when individuals are currently using the digital services from the same group of consortiums that will soon provide the upcoming digital banking services. Individuals have acquired rough ideas on how the user-friendliness of the upcoming systems will be based on their experiences with using the current digital services. Consumers' expectations of new technologies are increasing, and as the expectations are fulfilled, the potential usage of the technology will increase (Go, Kang, & Suh, 2020; Rifai, Hak, Hasbana, Suralaga, & Matin, 2020). Hence, the first hypothesis is formulated.

H1: There is a positive relationship between positive consumers' expectations for the services and Malaysians' perceptions of the digital banking services soon to be offered by non-bank consortiums.

2.3 Data Protection and Security

The data protection and security factor is extracted and modified from the perceived risk and trust element. Perceived risk reviews the consumer's uncertainty about the outcome and their concern to discover information about specific products and services before deciding (Kesharwani and Bisht, 2012). De Vivo, De Vivo, and Isern (1998) express that as many digital services are operated openly, the data and results they store are exposed to security and privacy threats such as phishing activities, malware, spyware, spoofing, and password-sniffing. Users experience higher risk when faced with threats, leading to their avoiding products and services and not trusting new digital platforms. (Fortes & Rita, 2016).

Page and Luding (2003) believe that trust is the key factor for strong motivation for digital banking service usage. Trust can be tied together with multiple factors such as perceived risk, perceived usefulness, and even the company's reputation in relation to Malaysians' perceptions of digital banking services adoption. Nguyen (2020) and Fortes and Rita (2016) both find that the relationship between trust and perceived risk has shown a negative impact, indicating consumers feel more secure and comfortable when they trust the services provided, leading to a reduction in their perceived risk level. Therefore, the hypothesis below is suggested.

H2: There is a positive relationship between strong data protection and security and Malaysians' perceptions of the digital banking services to be offered by non-bank consortiums.

2.4 Social Influence

Social influence is a factor that affects attitudes towards adopting services. Kesharwani and Bisht (2012) state that social influence has been acknowledged in the TAM model, but it has acquired differing outcomes and an erratic impact on technology. Venkatesh and Davis (2000) discover social influence has only a significant impact on technology adoption. Social influence is defined as people's perspectives on their actions and behaviours based on what their social circle thinks is best (Fishbein & Ajzen, 1975). Motivation is required for the change of usage intention and technology embracement, and experts give more importance to others' opinions and perspectives on the attributes of the new technology. This is especially true if an individual has no prior experience (Singh, Sahni, & Kovid, 2020). Yu and Yu (2019) have broken down the subjective norm element into two factors (peer influence and superior influence) in the context of the renewed TAM model. However, individuals tend to believe that certain behaviours are sensible when they observe the majority doing them, resulting in a more impactful transformation of one's perception (Vahdat, Alizadeh, Quach, & Hamelin, 2021). Therefore, a subjective norm is selected, and the hypothesis below is generated.

H3: There is a positive relationship between positive social influence and Malaysians' perception of the adoption of digital banking services by non-bank consortiums.

2.5 Company Image

Constructing a sound and reputable company image is essential for retaining consumers and attracting new ones. The success or failure of the corporation is determined by the positive or negative image the company has projected to society, which leads to their developing strong loyalty to the company and the products and services they provide (Usman, Mulia, Chairy, & Widowati, 2020). If the corporation has earned a positive image, mistakes will be forgiven, but if they keep prevailing, the image will be destroyed (Özkan, Süer, Keser, & Kocakoç, 2019). If the company bears a negative image, the severity of any mistakes will be focused on the consumer's perspective, causing further destruction to the company. The overall impression given to consumers by the company will be valued based on their experiences with the services, attitude, and reputation.

Purwanto, Deviny, and Mutahar (2020) and Alam and Noor (2020) find that corporate image has a positive and significant effect on their dependent variable, which is the confidence of millennials in financial technology and consumer loyalty. Purwanto et al. (2020) added that corporate image is an

important factor that influences people's perceptions and decisions, especially when their personal and financial data are related to financial institutions. Therefore, the hypothesis is established.

H4: There is a positive relationship between a good company image and Malaysians' perception of the digital banking services to be offered by non-bank consortiums.

2.6 Digital Banking Services Adoption

Digital banking has appeared as a new means of technology to direct multiple banking transactions such as money deposits, transfers, withdrawals, current and savings accounts, loans, bill payments, and applying for financial products through a digital platform. Ananda (2017) discussed cost reduction and error minimisation. Still, the banks are required to take necessary procedures to supply services beyond the expectations of consumers in a competitive market (Devesh, 2019), which serves as an important factor in improving consumer satisfaction as it delivers quicker, easier, and more efficient services to consumers (Bauer & Hein, 2006). Hence, with the upcoming digital banking system in Malaysia, it is certainly important to understand the thoughts of the citizens and potential users based on the variables above, and what makes them decide on the choice of embracement.

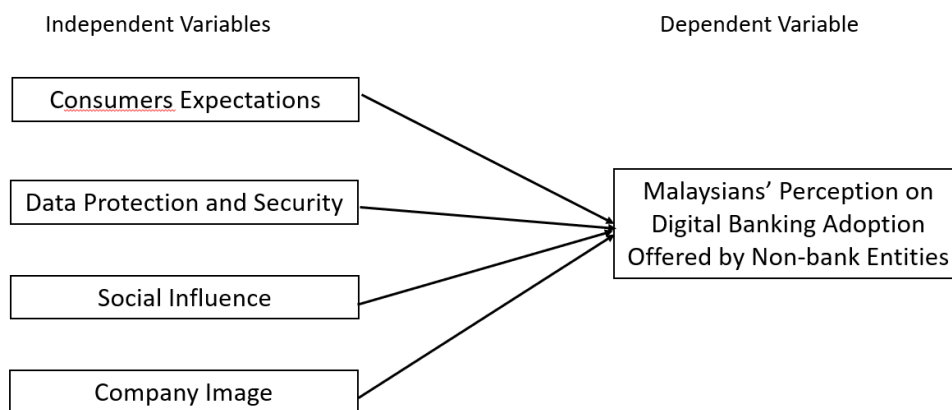


Figure 1 -The conceptual framework for this research

The framework design is inspired by the study of Alhassany and Faisal (2018), which the simple structure aims to increase the efficiency and convenience for respondents to boost a higher response rate as above.

3. Research Methodology

3.1 Research Design and Data Collection Method

Quantitative research has been incorporated into this research approach. Speaking of population, Delice (2010) suggests that to increase the dependability and reliability of the statistical findings, it is vital to keep the sample size of the thesis as vast as possible, with a recommended minimum of 250 responses. As a result, 360 Malaysian citizens were selected for the examination of their responses, which produced an attested result.

Convenience sampling and a user-friendly survey platform, Google Forms, are adopted. The questionnaires are distributed to the respondents in the form of nominations through communication platforms, requesting referrals. The data collection period ranges from September 1, 2022, to September 30, 2022, and the targeted number of respondents is 300. During that period, 200 respondents were directly approached for the study, while 382 referrals increased the number to 382. Filtering and cleaning of the data returned 360 respondents.

To ensure the measurability of the questions, a 5-point Likert scale is implemented. Based on the name itself, it has a range from 1 to 5, with 1 representing "strongly disagree", 2 representing "disagree", 3 representing "neutral", 4 representing "agree," and lastly, 5 representing "strongly agree. With the survey results gathered, filtered, and analysed, they will be assessed through IBM SPSS Statistics 26.

Table 1 - Structure of Measurement Items

No.	Variables	Questions	References
1.1	Consumers' Expectations	Using the services of a digital bank will make me conscious on environmental conservation (eg, Paperless operations).	Chuttur, (2009)
1.2		Using the services of a digital bank is safe and secure.	
1.3		Using the services of a digital bank is convenient, efficient, hassle-free and will enhance my productivity.	
1.4		Using the services of a digital bank will provide me rewards and perks.	
1.5		Using the services of a digital bank will allow me better financial control.	
2.1	Data Protection and Security	I trust that digital banks will protect my personal information using the best industry practices.	Fortes & Rita. (2016)
2.2		I trust that digital banks will not use my personal information for any other activity without my consent.	
2.3		I trust that digital banks will not trade my personal information with a third party for whatever commercial and non-commercial reasons.	
2.4		I trust digital banks to be transparent and accountable in events of unauthorised personal information access (eg, data breaches).	
2.5		I trust that digital banks will fully comply with the regulations laid out by the Personal Data Protection Act 2010.	
3.1	Social Influence	I will be influenced by people who think that I should use digital banking services.	Willis. (2008)
3.2		I will be convinced by people whom I'm close with (eg, family members, friends, partner etc.) who think that digital banking is good.	
3.3		I will be influenced by people of high profile in my circle.	
3.4		I decide based on other's experience and advice.	
3.5		I will find out more before committing myself into a decision.	
4.1	Company Image	I will choose a digital bank owned by a consortium that is reputable and well-known in the market.	Kang & James. (2004)
4.2		I will choose a digital bank owned by a consortium that is already successful in an existing business they operate in.	
4.3		I will choose a digital bank owned by a consortium with no criminal record and are fully compliant with laws and regulations.	
4.4		I will choose a digital bank which understand customers' needs.	
4.5		I will choose a digital bank who respect customer rights and provide courteous services.	
5.1	Perception on Adoption of Digital Banking Services	I believe digital banking is the future to provide safe, secured and higher quality financial and banking services.	Alhassany & Faisal. (2018)
5.2		I believe digital banking will make my life easier.	
5.3		I will recommend others to use digital banking services.	
5.4		I will use the digital banking services.	
5.5		In terms of frequency, I will use the digital banking services.	

4. Analysis

4.1 Descriptive Analysis

With 360 valid responses collected and filtered, it is important to run through the demographic data of the respondents selected. As per *Table 2* illustrated below, the total collection consists of 214 female respondents (59.4%) and 146 male respondents (40.6%), suggesting there are more females than males

who responded to the survey. Next, the age group of above 50 years old has taken the crown for holding the most respondents of all the 360, with 154 individuals (42.8%). Subsequently, it is followed by the age group of 21 to 30 years old with 84 respondents (23.3%), the age group of 41 to 50 years old with 76 respondents (21.1%), the age group of 31 to 40 years old with 39 respondents (10.8%), and lastly, respondents below 20 years old holding just seven (1.9%). The reasons for the minute number of respondents below 20 years old are mainly pivoted in a column of lacking knowledge of the banking systems. As digital finance is not focused on the high school syllabus in Malaysia, many individuals have no concept of or knowledge of such exposure. However, the responses given by individuals below 20 years old can be accepted, if their highest academic qualification lies on the pre-university level, involving either A-Levels, matriculation, foundation, STPM (Malaysian Higher School Certificate), or others, for two reasons. Firstly, students started to have a brief idea of financial knowledge due to the subjects given in the course they chose. Lastly, the majority of the students have started to acquire a bank account, regardless of whether it is linked to the prime account of their parents or guardians; as a result, individuals have started to gain a few insights into financial items.

Resuming the demographic data collection, most individuals of all 360 respondents have the highest qualification of bachelor's degree, consisting of 196 individuals (54.4%), followed by 80 respondents (22.2%) being pre-university graduates, postgraduates holding up the number of 45 respondents (12.5%), and lastly, secondary school accounted for 39 individuals (10.8%). In terms of occupation, most of the respondents have stated themselves as private sector employees, amounting to 168 individuals (46.7%). Thenceforth, there are 65 respondents (18.1%) who are self-employed, 61 respondents (16.9%) are either housewives or retired, 31 respondents (8.6%) are currently studying, 22 respondents (6.1%) are public sector employees, and lastly, 13 respondents (3.6%) are freshly graduated but unemployed.

Moving to their habits on current usage on digital platforms, 354 individuals out of all 360 have used digital platform services before, for instance Grab, Boost, Touch 'n Go eWallet, Shopee, and others. Whereas the remaining six (1.7%) have not used any of them. Therefore, from now on, the sample population has been filtered down to 354 respondents. To rephrase it, only respondents who are users of digital platforms will be selected for further tests. In relation, the majority of the 354 have used e-wallet platforms (90.3%), followed by online shopping platforms (85%), food delivery and e-hailing (74.4%), and lastly investment platforms (20.3%), regardless of either of them or involving two or more choices. Moreover, 156 respondents (43.3%) have been using the services more than nine times a month, continuing with 74 respondents (20.6%) using the services three to five times a month, 65 respondents (18.1%) using the services once or twice a month, and 59 respondents (16.4%) using the services six to nine times a month.

Table 2 - Descriptive Statistic

	Frequency	Percentage (%)
Gender		
Male	146	40.6
Female	214	59.4
Age Group		
Below 20 years old	7	1.9
21-30 years old	84	23.3
31-40 years old	39	10.8
41-50 years old	76	21.1
Above 50 years old	154	42.8
Highest Academic Qualification		
Secondary	39	10.8
Pre-university	80	22.2
Bachelor's degree	196	54.4
Postgraduate	45	12.5
Occupation		
Student	31	8.6
Fresh graduate and unemployed	13	3.6
Public sector employee	22	6.1
Private sector employee	168	46.7
Self-employed	65	18.1
Retired/housewife	61	16.9
Are you a user of services from digital platforms such as Grab, Boost, Touch 'n Go eWallet, Shopee etc.?		
Yes, I'm a user	354	98.3
No, I never use them	6	1.7
Kindly tick which digital platform(s) you have dealt with.		
Online shopping (Lazada, Shopee, AliExpress, Amazon etc.)	306	85.0
E-wallet (Touch 'n Go, Boost, PayPal, Setel etc.)	325	90.3
Food delivery and e-hailing (Grab, FoodPanda, AirAsia Super App, MyCar etc.)	268	74.4
Investments (UTrade, Kay Hian, StashAway, HUEBROKING, eToro etc.)	73	20.3
No, I have not dealt with any of these listed platforms	6	1.7
How often do you use the above digital services?		
Never	6	1.7
Once or twice a month	65	18.1
Three to five times a month	74	20.6
Six to nine times a month	59	16.4
More than nine times a month	156	43.3

4.2 Reliability Test

According to the reliability range guide Hinton, Brownlow, McMurray, and Cozens (2004) provided, a moderately acceptable value range is classified between the margins of 0.50 and 0.75. As reported in TABLE 3, data protection and security, company image and adoption of digital banking services each have relatively high Cronbach's alpha coefficients of 0.932, 0.912, and 0.807, respectively. While the consumers' expectations of the services and

social influence, which projected an alpha value of 0.616 and 0.709, respectively. Hence, all variables have successfully passed the reliability test and been shortlisted, which then makes the overall reliability of the 25 items marked at 0.880, considered a high reliability score for the upcoming tests.

Table 3 - Reliability Test

Variables	Number of Items	Cronbach's Alpha
Independent Variables		
Consumers' Expectations on the Services	5	0.616
Data Protection and Security	5	0.932
Social Influence	5	0.709
Company Image	5	0.912
Dependent Variables		
Perception on the Adoption of Digital Banking Services to be Offered by Non-bank Consortiums	5	0.807
Overall	25	0.880

4.3 Spearman's Correlation

Table 4 reports the Spearman's correlation. The outcome showed that consumers' expectations of the services ($r = 0.485$, $p < 0.01$), data protection and security ($r = 0.349$, $p < 0.01$), social influence ($r = 0.313$, $p < 0.01$), and company image ($r = 0.266$, $p < 0.01$) all showed a low yet positive correlation to the Malaysians' perception of the digital banking services soon to be offered by non-bank consortiums, as their correlation coefficient values are lower than 0.7. Comparing among the four, the consumers' expectations variable has the highest value as compared to the other two, showing it is the most correlated independent variable to the observing variable. The p-values of the Spearman's correlation analysis are less than 0.01, suggesting there is a significant relationship between the variables.

Table 4 - Spearman's Correlation Analysis between Variables

Spearman's Rho	Consumers' Expectations on the Services	Data Protection and Security	Social Influence	Company Image	Perception on the Digital Banking Services be Offered by Non-bank Consortiums
Consumers' Expectations	1.000				
Data Protection and Security	0.480**	1.000			
Social Influence	0.398**	0.224**	1.000		
Company Image	0.157**	0.190**	0.217**	1.000	
Perception on the Digital Banking Services Offered by Non-bank Consortiums	0.485**	0.349**	0.313**	0.266**	1.000

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

4.4 Multiple Regression Analysis

As Table 5 shows, the R-square value of 0.317 indicates the independent variables only explain 31.7% of the variability of the dependent variable. The low R-square value can be due to the high dataset variability, in which the data points fall further than the regression line or are randomly scattered. The Durbin-Watson value standing at exactly 2.0 indicates no autocorrelation; the value substantially below 2.0 and above 0.0 shows positively autocorrelated data; and the value above 2.0 and below 4.0 defines negatively autocorrelated data. From Table 5, it indicates a figure of 1.949, standing below and relatively close to 2.0, defining no autocorrelation (Analyttica Datalab, 2021).

Table 5: Multiple Regression Model Summary

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate	Durbin-Watson
1	0.563 ^a	0.317	0.309	2.104	1.949

a. Predictors: (Constant), Company Image, Consumers' Expectations on the Services, Social Influence, Data Protection and Security

b. Dependent Variable: Malaysians' Perception on the Digital Banking Services be Offered by Non-bank Consortiums

Table 6 shows that with a total of 354 respondents and a total of four variables, the F-value holds a high figure of 40.513. As the p-value is smaller than the alpha level of 0.05 with a 95% confidence interval, it can be determined that the independent variables are statistically significant to the dependent variable and the group means are significantly different from each other. Thus, it is confirmed that there is a possibility of rejecting the null hypotheses in further analysis. The model coefficient table shows the significance of the variable in the model and the degree to which it impacts the dependent variable.

Table 6 - ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	717.601	4	179.400	40.513	0.000***
	Residual	1545.438	349	4.428		
	Total	2263.040	353			

a. Dependent Variable: Malaysians' Perception on the Digital Banking Services be Offered by Non-bank Consortiums

b. Predictors: (Constant), Company Image, Consumers' Expectations on the Services, Data Protection and Security, Social Influence.

The superscript *** denote the 1% levels of significance.

As projected in Table 7, starting with the unstandardised coefficients, the constant β -value is 6.952, indicating the predicted value of the dependent variable intercepts on the y-axis when the independent variables are marked with a value of zero. Bringing up the unstandardised coefficients of the independent variables, the B-values are marked 0.360, 0.075, 0.087, and 0.168, respectively, for the four manipulating variables. This defines that for every one unit increase in the dependent variable, there will be an increase in the specific amount listed in the B-value in the respective independent variables.

The beta of the standardised coefficients tells which independent variable is the most impactful among all on the dependent variable. The variable of consumers' expectations on the services has shown to be the most impactful determinant as it has the highest beta recorded ($\beta = 0.376$; $t = 7.031$) as compared to data protection and security ($\beta = 0.125$; $t = 2.476$), social influence ($\beta = 0.098$; $t = 1.994$), and company image ($\beta = 0.177$; $t = 3.848$). In the model with a 95% confidence interval, the p-values reported in all four independent variables are 0.000, 0.014, 0.047, and 0.000, respectively, which are significant at 0.05. Therefore, it can be concluded that the coefficients of consumers' expectations, data protection and security, social influence, and company image are statistically significant.

Lastly, the collinearity statistics consist of both elements, which are tolerance and the variance inflation factor (VIF), and both determine if multicollinearity exists in the test model. As stated by Shrestha (2020), a moderately correlated value should be between one and five. Multicollinearity among the predictor variables occurs if the VIF value ≥ 5 and the regression coefficients are weaker due to extreme multicollinearity. Fortunately, the VIF values are recorded >1 and <5 , quoted as 1.461, 1.308, 1.225, and 1.079, respectively. Thus, there is no multicollinearity.

As a summary, according to the computation of Spearman's coefficient and multiple regression analysis, consumers' expectations of the services have been shown to be the most impactful and most correlated variable among all.

Table 7 - Model and Parameter Estimates

Model	Unstandardised Coefficients		Standardised Coefficients	t-stat	Sig.	Collinearity Statistics	
	Beta	Std. Error	Beta			Tolerance	VIF
(Constant)	6.952	1.120		6.207	0.000***		
Consumers' Expectations	0.360	0.051	0.376	7.031	0.000***	0.684	1.461
Data Protection and Security	0.075	0.030	0.125	2.476	0.014***	0.764	1.308
Social Influence	0.087	0.044	0.098	1.994	0.047**	0.816	1.225
Company Image	0.168	0.044	0.177	3.848	0.000***	0.927	1.079

Note: Dependent Variable: Malaysians' Perception on the Adoption of Digital Banking Services be offered by Non-bank Consortiums. The superscripts ***, ** and * denote the 1, 5 and 10% levels of significance, respectively.

5. Discussion and Conclusion

This research examines the factors that could potentially influence the upcoming digital banking system in Malaysia. Consumers' expectations, data protection and security, social influence, and company image are found to have a significant impact on Malaysians' perceptions of the adoption of the digital banking system offered by non-bank consortiums.

Consumers' Expectations. The positive relationship between consumers' expectations of services and their intention to use technology corroborates the findings of Kabra, Ramesh, Akhtar, and Dash (2017) and Venkatesh et al. (2008) in the context of information technology. The point is that individuals are convinced by a user-friendly interface in the relative technology, which brings them convenience and higher productivity (Chauhan & Jaiswal, 2016).

The positive relationship between data protection and security reinforces the observations of Alhassany and Faisal (2018), Fortes and Rita (2016), and Stewart (2003), who explain the concept that the higher the level of trust given by individuals, the higher the potential for individuals to use the services.

The positive relationship between social influence and technology adoption confirms the results in Alhassany and Faisal (2018); Vahdat et al. (2020); and Venkatesh and Davis (2000).

The positive relationship between company image and productivity corroborates the findings of Kang and James (2004), Özkan et al. (2019), and Purwanto et al. (2020). Kang and James (2004), and Purwanto et al. (2020). The concept applied is that a positive company image allows for better persuasion towards the public, gaining a higher level of trust from the public, resulting in more consumer loyalty and, therefore, higher intention usage.

6. Implication

The Consortiums. Several implications are provided in this research. To begin with, the consortiums, as digital banking is soon to be developed in Malaysia. In this study, it has been established that consumers' expectations serve as the most impactful variable in Malaysians' perception of the upcoming digital banking services. Users tend to get attracted to convenience, hassle-freeness, and productivity maximisation, in which they wouldn't have to spend hours on the system, and this research will spread awareness of the responses provided by the public to the consortiums, displaying important elements that need addressing based on certain issues in the existing digital services. Indeed, other factors such as data protection and companies' ethical practices that can boost the company's image shall be taken into consideration too, which show a positive effect on digital banking acceptance, and formulate a well-planned strategy for promoting a beneficial digital platform that can be utilised comfortably by individuals. Secondly, digital banks should deliver a truly distinguished consumer value scheme that will result in positive financial performance. For instance, irresistible pricing, customer inquiry chatbots, and seamless digital onboarding systems (Chow, 2022). That way, they will not just reach out to a sufficient consumer base but also allow the consortiums to select a necessary and proper technological enhancement to satisfy the requirements.

The Policymaker. BNM, the policymaker of the digital banking system, can also recognise appropriate strategies to continuously enhance and support the digital infrastructure based on the perceptions addressed in this research. Structures such as enhanced data protection and security systems can be regulated and obligate the consortiums to comply and implement them into their systems. That includes the regulation of sustainability as well, as the majority of respondents to this survey study has indicated acquiring consciousness of environmental conservation while using digital services.

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Conflict of interest

The authors confirm that there is no conflict of interest involved with any parties in this research study.

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