DIGITAL BANKING CHANNEL SUSTAINABILITY: IS IT EFFECTIVE TO USE?

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Abstract: The digital banking channel benefits customers in conducting banking transactions. However, many customers still depend on transactions directly from banking branch offices. This study intends to examine the factors that can increase the adoption of digital banking. Six hundred seventy-five respondents participated in this survey of customers utilising digital banking channels to conduct their banking transactions. Respondents were invited to complete a questionnaire that was made available online. The answers were then compiled and analysed using SEM Lisrel. Based on the findings of the study, the level of self-efficacy of customers as well as the quality of information they receive significantly impacts their ability to comprehend the advantages of digital banking. The respondents' adoption of digital banking is significantly influenced by another element known as perceived usefulness, which is the most important component. This research highlights the vital role of self-efficacy and information quality in supporting the development of the TAM model. According to the respondents, the reliability of information and operational support in dealing with problems received from digital banking providers are essential factors for a high level of usefulness.

Keywords: Digital banking, information quality, technology readiness, technology acceptance model, sustainability.

Introduction

The banking industry is currently undergoing fast and dynamic technological development. In addition to the challenges related to change, banks face new industrial challenges in the financial technology industry. In addition, the existence of social restrictions has increased the digitalisation trend. People now prefer to complete transactions without physical contact. Therefore, firms cannot separate their information systems from their business processes (Soedarsono *et al.*, 2019; Daryanto, 2020; Ibrada, 2020; Heredia *et al.*, 2022), especially in the banking sector. An exemplary information system implementation will increase a company's level of excellence by providing a data processing speed that supports decision-making. One of the latest technologies is digital banking. Banking requires digital banking technology to be competitive, especially for customers. The existence of digital banking will undoubtedly benefit customers.

Based on daily social research, most transactions made through e-commerce are carried out using bank transfers (49.01%), and only 21.43% take place via internet banking (Databoks, 2017). The reason for using bank transfers via ATMs is that ATM payments are more manageable (68%), safer (9%), and only require a debit card (12%) (Zuhra, 2016). Previous research has also supported the assertion that traditional banking activities (through physical branch offices) are still preferable to virtual banking activities, despite the convenience of virtual banking and more accessible facilities (Shaikh & Karjaluoto, 2015; Afshan & Sharif, 2016; Musyaffi *et al.*, 2022b;) environmental and technological.

Online banking has the highest market share of 80.7% in 2021, with the fastest annual growth of 21.1% (Research and Market, 2022). However, consumers do not entirely leave traditional banks, such as branch offices, where 79.9% still prefer to visit branch offices to make transactions (Bennett & Bennett, 2022). The banking industry has increased digital maturity by providing account openings without going to a branch office (70%) (Deloitte, 2022). Threats from other industries have widened the range of technological convenience developments, especially in service investment, card management, and authorisation (Deloitte, 2022).

According to PWC, global bankers foresee a shift in consumer preference for banking transaction media, with 59 global bankers predicting that clients will choose digital channels over branch offices (Databoks, 2017). As such, digital banking may struggle to survive rapid technological developments given that competitors from other sectors, such as financial technology have made great strides over the past few years. Fintech can quickly provide loans for investing in stocks, bonds, and cryptocurrencies (Cag, 2021). In addition, fintech also provides accessible storage facilities at a lower cost. Fintech also brings technology that is more advanced than banking, which is quite late to adopt technology so that fintech can use it to achieve a competitive advantage (Cag, 2021).

Behavioural intentions are measured by loyalty, proclivity to switch, willingness to pay more, responses to problems outside the environment of the company (external response to problems), and responses to problems within the company (internal response to problems) (Zeithaml *et al.,* 1996). The quality of information available influences the acceptance of digital banking as new technology (DeLone & McLean, 2003; Musyaffi, Johari, *et al.*, 2022). The adoption of this technology will be encouraged as the quality of the information produced increases. There are still cases of customers losing money, even though the maximum withdrawal of funds in one day has been determined (Wicaksono, 2017). In addition, differences in balance information on

customers' accounts still often occur (Afriyadi, 2017). Therefore, it can be concluded that there is a problem with inaccurate information as the cause of poor information quality. The poor quality, of course, will discourage customers from continuing to use digital banking.

Technology Acceptance Model (TAM) describes a person's acceptance of technology adoption. According to previous research, the main factor in technology adoption is perceived usefulness (Kumar *et al.*, 2017; Musyaffi *et al.,* 2021; Tamilmani *et al.*, 2021; Abu-Taieh *et al.,* 2022). Perceived usefulness shows the level of usefulness and benefits that customers feel can improve their performance. A previous study has demonstrated a strong connection between perceived usefulness and behavioural intention (Motaghian *et al.,* 2013; Hu & Zhang, 2016; Marakarkandy *et al.,* 2017; Sinha *et al.,* 2019; Trinh *et al.*, 2020; Mostafa, 2020; Musyaffi *et al.*, 2022c; Rosnidah *et al.*, 2022). Technology adoption can be gauged from how customers communicate with internal and external parties regarding problems. The Financial Services Authority (OJK) annual report shows 293 case reports due to internet crimes (OJK, 2017). The intention factor (70%) has a significant impact (Venkatesh *et al.*, 2003).

Marketeers (2016) reports that bank-owned smartphone applications appear obsolete due to their design, and several limitations make it difficult for consumers to complete numerous transactions. As a result, customer satisfaction and willingness to conduct electronic banking transactions are decreased. Digital banking is becoming increasingly popular because of the challenges in transitioning customers from traditional banking to digital banking, mostly attributable to a lack of customer information regarding this phenomenon. Indeed, given the simplicity and utility of digital banking, ATM transactions should have begun to diminish. This fact reflects a trend toward detachment from technology. This research aims to reveal deep factors that can increase the adoption and successful implementation of digital banking to survive in the financial industry.

Digital Banking

Digital banking is a financial service that makes transactions more convenient for customers (Amidjaya & Widagdo, 2019; Musyaffi *et al.,* 2022b). Digital banking allows customers to obtain information, communicate, open accounts, make bank transfers and electronic-based transactions, and fulfil other banking service needs independently (Mbama *et al.,* 2018; Mbama & Ezepue, 2018; Musyaffi *et al.,* 2021). The first example of digital banking is telephone banking. Telephone banking serves customers wishing to conduct banking transactions by dialling facilities. The second example is SMS banking. The function of SMS banking is to allow transactions via SMS. Customers can make payments, top-up credit, and make bank transfers. The third example is internet banking. As the name implies, internet banking enables transactions via the internet network. The transactions commonly carried out through internet banking include bank transfers, credit purchases, e-commerce purchases, electricity bill payments, loans, and others. The fourth form of the digital channel is mobile banking. Mobile banking enables customers to transact anywhere and anytime using a smartphone.

The TAM model describes how customers adopt the technology. According to previous studies, the perceived usefulness of modern technology is the most crucial determinant in people's acceptance of the technology (Zhang *et al.*, 2018). The benefits obtained in digital banking are defined as the functions and benefits of digital banking channels that help customers increase their productivity compared with traditional methods. The feeling that the digital banking function will not help increase their productivity profoundly impacts people's intention to use digital banking. If customers think that digital banking is vital for their work, their behaviour toward digital banking will increase (Grabner-Kräuter & Faullant, 2008; Deb & Agrawal, 2017; Kumar *et al.,* 2017; Singh & Srivastava, 2018; Shankar, 2021; Musyaffi *et al.,* 2022b). Perceived usefulness is a critical indicator in internet banking applications (Marakarkandy *et al.,* 2017). This demonstrates that people use information systems due to their perceived features and usability (Davis, 1989).

Regarding the adoption of new technologies, self-efficacy is a crucial component of consumer thought processes. Self-efficacy determines consumer beliefs and behaviours (Hsia *et al.,* 2014). Individuals who regard themselves as capable or competent will be more likely to use the system (Park *et al.,* 2021). Self-efficacy refers to customers' expectations of using digital banking that is well accepted. The context of this acceptance is self-belief. Customers who have a high degree of confidence in using digital banking will tend to use it. The existence of essential information and experience in using technology similar to digital banking (for example, e-wallets and mobile payments) will increase self-efficacy (Mahat *et al.,* 2012; Makki *et al.,* 2016; Marakarkandy *et al.*, 2017; Latikka *et al.*, 2019; Musyaffi, 2022). When it comes to mobile banking, if the customer believes in himself and believes he possesses the necessary skills, knowledge, and talents, the customer has the potential to experiment with mobile banking (Singh & Srivastava, 2018). According to Wangpipatwong *et al.* (2008) research, establishing an easier-to-use e-government website increases the website's usability and, indirectly, the intention to use the website.

Chandio *et al.* (2013) discovered that if consumers had a high level of self-efficacy, technology would be easier to utilise. The more information and experiences a person has, their self-efficacy can shift (Makki *et al.,* 2016; Tam, 2019; Latikka *et al.*, 2019). According to Meuter *et al.* (2003), technology anxiety is essential when utilising technology. According to this view, technological readiness, specifically the mental preparedness of customers, is the primary element influencing their acceptance of new technology (Parasuraman & Colby, 2015).

Then there is the issue of information quality, which affects the adoption of digital banking technologies. Information quality has an essential role in supporting the use of information technology. Information should be

presented in a specific form according to the customer's needs to be used in the decision-making process. It is also valuable for decision-makers to reduce uncertainty and understand specific areas that focus on customer attention (Arif *et al.*, 2020; Hoi, 2020; Sari *et al.*, 2022). Information quality can be defined as the quality of content resulting from the information (DeLone & McLean, 2003). If the information produced by an information system is good, has a clear information chart and clear information output, and can be reused, then customers believe that the information system can help to support their work customers (Pai & Huang, 2011; Djanegara *et al.,* 2018; Ibrada, 2020).

Previous research has shown clear evidence that information quality significantly impacts perceived usefulness (Lin *et al.,* 2011; Albashrawi & Motiwalla, 2019; Balakrishnan & Shuib, 2021; Musyaffi *et al.*, 2022b). When customers feel that the information obtained is helpful, they will take advantage of this technology (Krey *et al.,* 2019). When customers' attitude toward the quality of information is more optimistic, the perceived usefulness will be higher.

Materials and Methods

The respondents of this study were all Indonesian digital banking channel users, such as internet and mobile banking user, with a total sample size of 675 respondents. After the researchers determined the intended respondents, the questionnaire was delivered to the respondents. Survey research was used in this study because structured interviews could collect data for the measurement process. The questions were carefully picked, accurately assigned, and posed to the participants (Cooper & Schindler, 2014). The questions were arranged following the current conditions like perceived usefulness (Venkatesh & Bala, 2008; Alalwan *et al.*, 2016), Self-efficacy (Sripalawat *et al.*, 2011; Alalwan *et al.,* 2016), Information Quality (DeLone & McLean, 2003; Abugabah *et al.,* 2015) and Behavior Intention (Venkatesh & Bala, 2008; Alalwan *et al.*, 2016). Respondents who use digital banking were asked to complete questionnaires disseminated throughout Indonesia. In this study, an ordinal scale was employed with a questionnaire that had only closed questions.

In analysing the criteria for the hypotheses, several stages are used so that the hypotheses can be drawn according to predetermined criteria and methods. Confirmatory factor analysis (CFA) is utilised in the testing that is carried out for this body of work. In the first phase of the process, the measurement model is analysed to assess whether the constructs satisfy the standards for validity and reliability. After determining that the structural model is reliable and valid, the next step is to analyse it. This phase is broken

Table 1: Measurement item

Construct	Item	Question	References
Self-efficacy (X1)	X1.1	I can use digital banking without the help of others	(Alalwan *et al.*, 2016; Sripalawat *et al.*, 2011)
	X1.2	I am confident about using digital banking because there is a call centre available	
	X1.3	I am confident in doing digital banking transactions because there is enough time	
	X1.4	I am confident in using digital banking because there are facilities from digital banking to help me	
	X1.5	I am confident in using digital banking because I have used similar applications	
	X1.6	I am confident in using digital banking by following the instructions on the digital banking platform	

Information Quality (X2)	X2.1.1	Digital banking provides correct information.	(Abugabah *et al.,* 2015; DeLone & McLean, 2003)
	X2.1.2	There are only a few errors in digital banking information	
	X2.1.3	Digital banking produces accurate information	
	X2.2.1	Digital banking provides complete information	
	X2.2.2	Digital banking does not require much effort to access the information	
	X2.2.3	Digital banking has comprehensive information	
	X2.3.1	Digital banking has timeliness	
	X2.3.2	The digital banking platform is regularly updated	
	X2.3.3	The information provided by digital banking is timely to remind me of the quality of my decisions.	
	X2.4.1	Digital banking is easy to access	
	X2.4.2	Information on digital banking is easy to get	
	X2.4.3	The display on digital banking provides information that is comfortable to use	
Perceived Usefulness (Y)	Y1	Using digital banking can increase my productivity	(Alalwan *et al.,* 2016; Venkatesh & Bala, 2008)
	Y2	Using digital banking can increase my effectiveness at work	
	Y3	Digital banking is helpful because it has many uses for my work	
	Y4	By using digital banking, I can finish my work more quickly	
	Y5	Digital banking can improve my performance	
	Y6	Digital banking can make work easier.	
Behaviour Intention	Z1	The use of digital banking in everyday life can improve my performance	(Alalwan *et al.,* 2016; Venkatesh & Bala, 2008)
	Z2	I plan to use digital banking because it is helpful for everyday life	
	Z3	I recommend digital banking to others	
	Z4	I often use digital banking for every transaction related to work or daily life.	
	Z5	I will use digital banking for my daily needs.	
	Z6	I prefer to use digital banking compared to data to bank branches to make transactions.	

up into two parts. Structural models are used to determine whether a model adequately matches the data. If the model developed in the study complies with the prevailing research principles, the model developed can be used to proceed with the hypothesis testing.

Results and Discussion

The first stage in evaluating the hypotheses using SEM assesses the measurement model between the latent and the manifest variables. If the outer loading value is below 0.5, removing it from the model is advisable (Hair *et al.,* 2017). According to the data presented in Figure 1, the
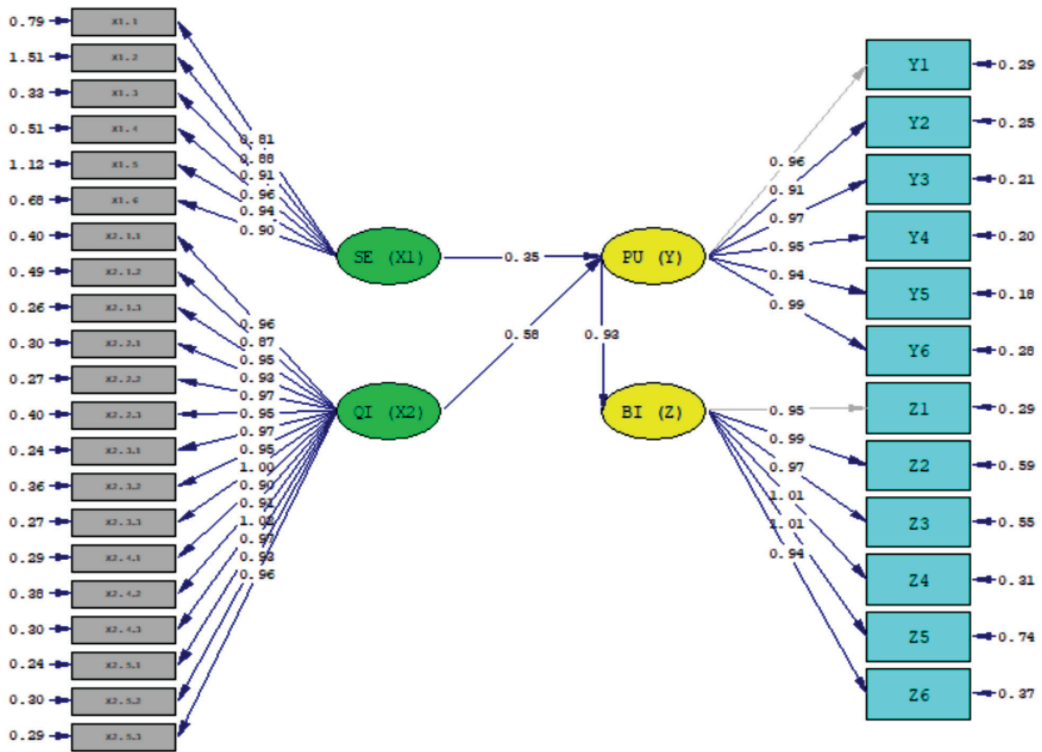
Figure 1: Full model standardisation coefficient

outer loading value for each of the constructs is higher than the advised value. Consequently, none of the constructs that make up this research model requires any adjustment.

In the subsequent step of the procedure, we will evaluate both the constructs' reliability and validity. Based on Tables 2 and 3, the CR value for all constructs is over 0.70, exceeding the recommended value. Thus, the constructs owned by each variable have good reliability. Examining the AVE value is the next step in determining whether the findings are reliable. Table 2 shows that the AVE values for each construct, like perceived usefulness (0.922), self-efficacy (0.872), information quality (0.917), and behavioural intention (0.975) are more than the recommended value of 0.5; therefore, all the variables in this research have a good level of construct validity.

Table 2 shows the model's goodness-of-fit (GoF) values (Hair *et al*., 2017). Several criterion measures are used so that the evaluation of the model can be accurately defined.

Table 3 shows that the chi-square has an estimated value of 2012.93 (p-value 0.000). The outstanding value of the chi-square is above 0.05 (Hair *et al*., 2017). However, this research obtained a chi-square value lower than 0.05. Consequently, according to the findings of the model fit test, the model does not have a satisfactory fit. However, these results cannot be an exact measure of model fit. After the model has a good fit, other test criteria are needed. Thus, we evaluate and compare the sizes of the dominant value in producing a model fit. The model is acceptable if a good fit is attained often (Hair *et al.,* 2017). As shown in the above tables, only the chi-square fails to meet the requirements. RMR (0.047, marginal fit) and GFI (0.85, marginal fit) are two measures with marginal fit values that are nonetheless acceptable, namely the root-mean-square residual and the goodness-of-fit index. As a result, it is possible to conclude

Table 2: Validity and reliability

Construct	Loading Factor			
	SE	IQ	PU	BI
1	0.81	0.96	0.96	0.95
2	0.88	0.87	0.91	0.99
3	0.91	0.95	0.97	0.97
4	0.96	0.93	0.95	1.01
5	0.94	0.97	0.94	1.01
6	0.9	0.95	0.99	0.94
7		0.97		
8		0.95		
9		1		
10		0.9		
11		0.91		
12		1.02		
13		0.97		
14		0.93		
15		0.96		
CR	0.855	0.977	0.959	0.924
AVE	0.872	0.917	0.922	0.975

Table 3: Model fit test results

GoF Criteria Measure	Estimated Value	Decision
Chi-Square	2012.93 (p= 0.000)	P >0.05, Not Fit
RMS	0.068*	≤0.08, Good Fit
RMR	0.047*	≤0.05, Marginal Fit
GFI	0.85*	≥0.9, Marginal Fit
NFI	0.99*	≥0.9, Good Fit
NNFI	0.99*	≥0.9, Good Fit
IF	0.99*	≥0.9, Good Fit
RFI	0.99*	≥0.9, Good Fit
CFI	0.99*	≥0.9, Good Fit t

* Meets the criteria for a good model.

that the model produced in this study has a high degree of congruence with reality.

According to the findings of the structural analysis presented in Table 4, the perceived usefulness of digital banking has a considerable and favourable impact on the intention to use digital banking (t-value = 28.32 > 1.64), while self-efficacy (t-value = 7.95 > 1.64) and information quality (t-value = 12.62 > 1.64) linked with digital banking have a substantial

Table 4: Hypothesis testing

Hypothesis	Path	Coefficient	Value	Decision
H1	Self-efficacy = > Perceived Usefulness	0.35	7.95	Accepted
H2	Information Quality = > Perceived Usefulness	0.58	12.62	Accepted
H3	Perceived Usefulness = > Behavioral Intention	0.93	28.32	Accepted

favourable influence on the intention to adopt digital banking (t-value = 7.95 > 1.64). In the structural test shown in Table 3. Thus, the first, second, and third hypotheses are statistically supported.

Discussion

This study demonstrates the significance of information quality and self-efficacy in the TAM model for technology adoption. The results show that the core variables in the TAM model contribute the most to the impact, compared with information quality and self-efficacy, with a score of 93%. This is reasonable considering that digital banking provides more significant benefits and convenience than transacting through a physical bank. Other research provided their views on mobile banking, asserting that it can quickly and profitably help with various transactions (Akturan & Tezcan, 2012). As a result, mobile banking customers are increasingly adopting this technology. Many researchers have established that one of the most important aspects of adopting technology is how beneficial it is judged to be (Sripalawat *et al.,* 2011; Kumar *et al.*, 2017; Musyaffi *et al*., 2022a). This research also shows the vital role of self-efficacy and information quality, which make the impact of perceived usefulness even greater.

The results show that the self-efficacy of digital banking customers is an essential factor influencing their intention to use digital banking channels, with an impact of 35%. Technological self-efficacy could be essential in customers' perception of technology (Chandio *et al.*, 2013). The higher the level of self-efficacy of digital banking customers, the greater their desire to continue using digital banking. People with a higher sense of their capabilities are often more adept at using online banking than those with a lower sense of their capabilities. There is a tendency for customers not to be confident because of the low level of direct communication in the digital banking channel. Customers can make transactions without communicating directly through mobile, internet, and SMS banking. Banking transactions can be carried out smoothly using a smartphone.

This factor causes a minority of customers, especially older people, to worry that there is no communication facility through digital banking channels. However, apart from complaints from some customers, digital banking in Indonesia is considered to have a high degree of usefulness. These findings which discovered that self-efficacy had favourable associations with perceived usefulness and ease of use. The findings are consistent with earlier studies (Latikka *et al.*, 2019; Nowiński *et al.*, 2019; Tam, 2019), showing a statistically significant correlation between users' computer self-efficacy and the advantages of using computers.

In terms of information quality, the perceived utility of digital banking will increase when the information generated by digital banking is reliable and correct. This statement is in reaction to the findings of this survey, which discovered a statistically significant positive correlation between information quality and the desire to use digital banking among 58% of respondents. When information is accurate, complete, current, efficient, relevant, and timely, it is of high quality, and when it has broad coverage, it is said to be comprehensive (DeLone & McLean, 2003). If the information system has a clear information chart and output, as well as the ability to reuse the information, then the quality of the information it produces

is good. In that case, customers believe that the information system can help to support their work (Pai & Huang, 2011).

Previous research has established conclusively that the perceived utility of information is significantly influenced by its perceived quality (Cheng, 2012; Venkatesh & Bala, 2008). When customers feel that the information obtained is helpful, they will take advantage of this technology (Musyaffi *et al.*, 2022a). This is in line with Pai & Huang (2011) that when customers' attitude toward the quality of information is more optimistic, the perceived usefulness will be higher. It has also been evidenced in the work of other researchers that the quality of information influences perceived usefulness (Motaghian *et al.,* 2013; Musyaffi *et al.*, 2022c).

The quality of information shows how the output produced by digital banking can meet customers' expectations. In this research, the quality of information generated by digital banking is quite good. As such, digital banking customers agree that the quality of information generated by digital banking is sufficient. The point that stands out the most regarding the quality of information is the issue of accessibility. Respondents of this study perceive that digital banking can be accessed and used efficiently, so customers can monitor their accounts and engage in transactions without difficulty.

In addition, clear information makes customers feel comfortable that they understand the information output. The information's quality must also consider the intended customer and the application's intended use. This suggests that the ease of use and usefulness provided by information technology may be influenced by the quality of the information, which in turn can impact the intentions of consumers. The more accessible and beneficial an information technology is, the greater the likelihood it will be used.

The more accurate and timelier the information supplied, the more it will assist the individual in resolving the problem associated with the work at hand, increasing customer

performance and impacting the usage of information technology (Abugabah *et al.*, 2015). Pai & Huang (2011) corroborate this by demonstrating how the information quality variable influences behavioural intention via perceived usefulness. Additionally, the past study indicates that the information quality variable affects the intention to use action via perceived utility (Cheng, 2012; Pai & Huang, 2011; Venkatesh & Bala, 2008).

In general, most digital banking focuses on providing products and services, while technology companies adapt to address client issues, triggering new customer service and experience standards. The results of this study indicate that the features and benefits of digital banking are closely related to the sustainability of digital payments. Therefore, the main focus of banking must be to adapt to customer needs, especially in increasing the convenience and features of digital banking. Other research also supports this statement that good features and benefits can maximise technology adoption (Akinnuwesi *et al.*, 2021; Abu-Taieh *et al.,* 2022; Musyaffi *et al.,* 2022b) so that banks that can take advantage of the superior features and convenience of technology can continuously improve their business continuity.

Conclusion

Investigating the relevance of self-efficacy and information quality in developing the TAM model is the objective of this study. It has been demonstrated that self-efficacy and the quality of information are significant elements of the perceived value of digital banking. There is a significant and positive impact that self-efficacy has on the behavioural intentions of responders. The findings of this study demonstrate that consumers now have a stronger understanding and experience with digital banking than customers of previous technologies. Thus, when customer self-efficacy increases, it encourages consumers to return to digital banking. While information quality positively influences perceived utility, consumers consider digital banking readily available and accessible. As a

result, customers can effortlessly monitor and transact.

Concise information enables people to comprehend the information's result. Thus, the higher the quality of information generated by digital banking, the more favourable the opinion of digital banking adoption. The quality of information is measured according to whether the information can produce accurate output and has the content and information format that satisfy customers' needs. Thus, the generation of more accurate and timely information will help reduce individuals' problems in the tasks they are working on, increasing customer performance and affecting the use of information technology.

Therefore, the importance of convincing individuals to adopt technology is the basis for the high self-efficacy perceived by customers. Individuals who have confidence in the use of technology will understand it more easily. Hence, when they feel digital banking can increase their work effectiveness, customers will deem it applicable. The potential to continue using digital banking is increasing. These results further increase the perceived utility of digital banking among those who want to utilise it. The numerous benefits of digital banking will encourage consumers to continue using it to assist them in their job and daily lives.

Mobile banking enables the customer to conduct various financial operations swiftly and profitably. Customers have a higher propensity to use mobile banking within the digital banking framework to the extent that they consider it to have greater advantages. The existence of digital features, especially facilities that can be accessed anywhere, is the primary desire when making transactions using digital banking channels. The results of this research are significant for the government and digital banking service providers in identifying customer needs, especially the use of digital banking in terms of information quality and customer confidence. Notification features and one-time passwords (OTPs) in digital banking channels are essential in alleviating customers' anxieties about online security. Customers'

confidence grows when they can reach customer service representatives quickly. Apart from that, mobile services must be designed to be more inclusive to suit older consumers. Thus, the integration of these features with digital banking technology prompts an increased adoption of digital banking facilities.

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