Understanding Gen Z Consumers' Behaviour in Digital Banking Adoption: An Empirical Study

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ABSTRACT

Digital banking services are increasingly popular among the tech-savvy Gen Z population. This research explores the factors affecting digital banking adoption rates among Generation Z, a group known for their digital prowess and increasing prominence in the banking industry. Despite their tech-savviness, there is still a need to better understand the factors determining their adoption behaviour, especially in emerging markets like Malaysia. Drawing on the Technology Acceptance Model (TAM), this study seeks to understand the impact of individual knowledge, perceived usefulness, perceived benefits, trust and security risk management on Gen Z's digital banking adoption intention. This study adopted a quantitative approach with 302 respondents, aged 18 to 27. Questionnaires distributed through physical and electronic means were used for data collection. Using IBM SPSS Statistics 32.0 software, descriptive statistics, reliability test, correlation and multiple regression analysis were performed to assess the relationships between variables. The findings indicate that individual awareness is the best predictor of digital banking adoption, followed by perceived usefulness, perceived benefits and security risk management. The variables are strongly connected with the adoption intention. Surprisingly, trust did not prove to be statistically significant, which means that Gen Z might be less interested in trust factors, and more in convenience and usefulness. The model has high explanatory power, with 97.2% of the variance in adoption explained, suggesting that the model is very robust. Overall, the research shows that increasing awareness, usefulness, and perceived benefits, and security risk management are key to encouraging Gen Z to adopt digital banking. The results offer valuable theoretical and practical insights for banks and policymakers to enhance digital banking adoption by this demographic population.

Keywords: Digital banking, adoption, consumer behaviour, Gen Z.

INTRODUCTION

Digital banking is an umbrella term for a variety of services available via digital channels (i.e., online banking, mobile banking, digital wallets, etc.) These services allow users to conduct transactions, manage accounts, apply for loans, and receive financial advice from virtually any location and at any time. The digital banking model relies mostly on the integration of various technologies to enhance security, efficiency, and user experience (Ekeh et al. 2024), such as cloud computing, artificial intelligence, machine learning, and blockchain. In this context, marketing approaches in digital banking require marketers to be honest, particularly when sharing complex information about banking products with consumers (Zainuddin, 2016).

Among the primary advantages of digital banking are unmatched ease, cost-effectiveness, and enhanced security features. Customers could conduct transactions, request loans, and manage their finances at their convenience. Furthermore, cost reductions associated with banking operations may be passed on to customers via lower fees and better interest rates (Kar et al. 2019; Wang, 2025). Security technology, such as biometric authentication and real-time fraud detection, also assists in safeguarding consumer information and transactions (Burugulla, 2024). Graph research generates superior security controls, including biometric authentication and real-time fraud detection, which provides protection to consumer data and transactions (Burugulla, 2024).

However, other major barriers to digital banking include cybersecurity threats, digital literacy, and rigorous compliance with regulations. Cybersecurity threats like data breaches or fraud pose profound risks to both financial institutions and consumers; thus, robust security practices are paramount. In addition, users need to have digital literacy skills in order to navigate and utilize digital banking services effectively. Many consumers, particularly in developing regions, have a shortcoming in key competencies and knowledge, which serves as an impediment to the widespread adoption of a particular product or service (Martínez et al. 2022). For financial institutions, a major hurdle to overcome continues to be regulatory compliance due to the need to comply with a complex and constantly evolving set of regulations that aim to protect customer data and preserve the stability of the financial system (KPMG, 2021). All these issues brought problems and obstacles to consumers to confidently engage with digital banking platforms. In relation to this issue, Generation Z is considered a high-potential group of customers that increasingly engages in various banking product offerings, but there has been a lack of studies focusing on understanding the needs of this group.

LITERATURE REVIEW

Generation Z is commonly defined as individuals born from 1997 to 2012 and characterized by their natural familiarity with digital technology, as well as their tendency to adopt new technologies at a young age (Francis & Hoefel, 2018). Retro new consumer profiles are digitally savvy, and they are the best bet for the finance sector, including banking, credit cards, etc. Nevertheless, a gap exists in the literature concerning the specific preferences, behaviours, and challenges faced by consumers regarding digital banking. Studies show that Gen Z has a stronger predisposition towards adopting digital solutions, but this adoption is guided by factors like trust, security apprehensions, usability and the perceived usefulness of the technology (Kaur et al., 2021).

It is imperative to the banking institutions to understand the adoption tendencies of Gen Z because this way, they are able to customize their services to cater to the needs of Gen Z. The potential of generation Z to grow the number of people using and accepting digital banking is enormous, but the tool has not been utilized in most countries, such as Indonesia and Malaysia, to understand the extent of influence such dimensions exert, as there is a gap between the need of financial technology usage and the current situation. It would provide banks with insights on how they might adapt their physical and digital offerings to meet the needs and expectations of the digital virtuoso, allowing greater financial inclusion and stimulating economic development in the digital age.

In the related context, Wessels and Drennan (2010) regarded perceived usefulness as an important factor for mobile banking, while Sabah (2016) highlights individual awareness in technology adoption. Chemingui and Ben Lallouna (2013) examine traditional beliefs and perceived risks as determinants of financial service adoption. In a recent study by Zainuddin et al. (2025), Perceived Usefulness, Perceived Security Risk, Responsiveness and Communication, Feature Availability, and Customer Satisfaction shaped users' experiences and perceptions of digital banking services. Although numerous studies have been conducted abroad, the vast majority overlook the distinct adoption behaviours of Generation Z; little research has visualized the synergy among individual awareness, perceived usefulness, perceived benefits, trust, and security risk management within this digital-native demographic. Hence, the study fills this research gap through the comprehensive analysis of these factors in a single framework to understand Gen Z's adoption behaviour, providing unique insights to financial institutions and policymakers for improving digital service engagement strategies.

Individual Awareness

Abdinoor and Mbamba (2017) foreclosure are essential for individual awareness in terms of implementing mobile financial services. Applying the Technology Acceptance Model (TAM), the study demonstrates that

awareness influences consumers' perception of ease of use and usefulness, which are significant prerequisites for technology adoption/action. Since Gen Z digital banking adoption has been a priority, awareness levels are directly correlated to exploring and adopting digital banking services.

Moreover, Laforet and Li, (2005) take this discussion to another level by looking at the difference in the level of awareness and its impact on the adoption of mobile banking. Awareness is not the only factor; behavioural characteristics, convenience and ease of use also play a part. These behavioural characteristics are crucial within the framework of Gen Z, the digital native. Although naturally instilled in technology, a lack of knowledge of specific features or the advantages of digital banking platforms could cause disruption to adoption. It is also important to note that such an approach also implies the significance of the clear and detailed information that should be designed with Gen Z consumers in mind. Moreover, as Kampoj et al. (2025) claim, it is not sufficient to be aware, but instead to adopt behavioural traits, such as trust and risk aversion. As Generation Z might be more interested in using platforms that have more easy-to-use interfaces and seamless experiences, digital banking services will have to raise awareness as well as take the above behavioural aspects into consideration.

In addition to that, the study by Kar et al. (2019), which focuses on the perception of the digital natives and immigrants towards banking communication, is very relevant to Gen Z. The research illustrates how insufficient information provided by institutions restricts users' comprehension of applications, resulting in uncertainty and limited usage. This reflects the interactions Gen Z uses with those who serve them, as opposed to receiving direct communications from banks. An example is the little awareness of the features of the Maybank MAE account in Malaysia, which could be addressed through a more proactive and transparent communication strategy to bridge knowledge gaps and increase acceptance.

The awareness that an individual develops of a product or service (in this case, mobile financial services or digital banking) through their understanding, knowledge, and experience. As discussed by Abdinoor and Mbamba (2017), whose study applies the Technology Acceptance Model (TAM), an awareness of digital banking significantly affects perceptions of ease of use and usefulness, which are necessary for technology adoption. Al-Okaily et al. (2023) highlight the importance of awareness in the financial inclusion process through information exposure and targeting specific campaigns. However, driving adoption gaps in awareness, even among tech-savvy Gen Z users, can be a barrier (as noted by Velinof, 2025), highlighting that clear and comprehensive communication is imperative. Moreover, Malhotra et al. (2022) also emphasizes that awareness needs to be combined with trust and strategies to mitigate risk to facilitate the adoption. Kar et al. Also, (2019) emphasizes that not having sound enough institutional communication can create the impression of digested information by users, leading to a call for banks to create adequate and interesting communication to establish a bridge between knowledge and lack of knowledge.

Perceived Usefulness

Perceived usefulness plays a pivotal role in shaping the adoption of digital-only banks and mobile financial services, as it influences customers’ evaluations of the benefits and value of these technologies (Saif et al. 2024). Srivastava et al. (2023) define perceived usefulness as a subjective construct based on the balance of benefits and sacrifices offered by a service provider, with convenience and economic efficiency being key determinants of adoption. Abdinoor and Mbamba (2017) point out that ease of use and customer attitudes are mediated by perceived usefulness, which has a significant influence on uptake of mobile financial services. Mohammadi (2015) discovered that one of the key factors that determines whether mobile banking is adopted is compatibility with the needs of the users. Al-Emran (2023) research highlights the broader societal, economic and cognitive aspects of perceived usefulness, demonstrating how the adoption of technology influences the outcome of development.Azhar et al. (2025) and Wessels and Drennan (2010) further emphasize that simplicity of use and perceived utility are critical in fostering acceptance, with perceived usefulness often acting as a bridge between user experience and behavioral intention.

In previous related studies, Saif et al. (2024) aimed to investigate the determinants of digital-only banks' perceived value and its mediating role on the relationship between behavioural intention determinants and the intention to adopt digital-only banks. The findings discovered that perceived usefulness is a crucial aspect of perceived value in shaping digital-only banks' adoption. As Shao (2025) notes, "perceived value is the

consumer's overall assessment of the utility of a product." This concept emphasizes that perceived value is a subjective mental construct influenced by how the customer weighs the benefits and sacrifices of service providers' offerings. For instance, perceived convenience and economic efficiency are key benefits that users acknowledge, playing a pivotal role in their adoption of digital-only banks' services.

In another relevant context, Mohammadi (2015) assessed the utilization of mobile banking in Iran. The questionnaires were distributed indiscriminately via private emails to 410 students who were members of Facebook and LinkedIn. The results of the study indicated that compatibility of the system was the primary factor influencing customers' willingness to use mobile banking. The perceived usefulness of mobile banking acts as a mediator in the relationship between the ease of use and customers' attitudes towards using it. While it is commonly believed that young people are more inclined to embrace new innovations, it is middle-aged people with a stable income who predominantly utilize mobile banking. Meanwhile, in a study conducted by Makanyeza (2017) and Wessels and Drennan (2010) also examined the role of perceived usefulness in influencing the adoption of mobile banking technologies. Another closely related factor that was highlighted as a determinant is the perceived simplicity of use for the new technology. In addition to perceived utility, Gupta et al. (2012) considered other aspects such as social, economic, knowledge, and individual status when examining the acceptability and adoption of new technology.

Perceived Benefits

The perceived benefits describe the practical advantages that customers recognize and value in a service, such as cost-effectiveness, convenience, and usability, which play a vital role in their adoption of digital-only banks and mobile financial services (Lin et al. 2020). These benefits are linked to customers' perceptions of saving time, money, and effort, as well as the accessibility provided by digital platforms. Users assess the value of an information system by weighing its benefits against its costs, influencing their desire to adopt the service (Saif et al. 2024). According to research that was conducted by Chemingui and Ben Lallouna (2013), some factors that reduce adoption include tradition, perceived value and risk among others, as well as motivators like emotional satisfaction and trust in quality. Thakur (2014) emphasized that customer loyalty in mobile banking is based on satisfaction with usability and quality and the loyalty is positively influenced by the previous use. Palamidovska et al. (2025) also highlighted that the perceived benefits, though critical, are interrelated with compatibility, trialability, and system quality in influencing the acceptance of mobile financial services. Therefore, the sense of value does not only promote the initial adoption, but it also promotes the further use and allegiance.

In another similar perspective, Saif et al. (2024) highlighted that the term "perceived benefits" describes the practical advantages that customers recognize and value, which are essential to their use of the offered services. The primary advantages of digital-only banks are their apparent cost- effectiveness and convenience. The idea that digital-only banks provide more accessibility and usability than traditional banks is linked to perceived convenience. Customers' perception that using digital-only banks' services allows them to save money, time, and effort is what defines economic efficiency (Saif et al. 2022). After weighing the costs and benefits, users determine the value of an information system, which in turn affects their desire to use it. Numerous studies have revealed that consumers' perceptions of the benefits associated with an action are what ultimately drive them to carry it out. Customers make decisions based on subjective value judgements when they lack expertise and information or are unfamiliar with a new service or product (Tajdini, 2021).

Additionally, Chemingui and Ben Lallouna (2013) conducted a study to determine the intentions, trust, motivations and resistance among the consumers towards adopting mobile banking services in Tunisia. Their research investigated the facilitating conditions that stimulate the adoption of mobile financial services and the inhibiting factors, which prevent consumers adopting new technologies. The findings showed that there are a number of barriers to the adoption of mobile banking, with tradition coming out as the greatest hindrance. The customers were not willing to switch to new routes and behavioural patterns and were reluctant to approach service providers using mobile applications and other digital services. Customers are motivated to use services that align with their needs and behaviours, according to the research. They are also interested in services that offer a chance to try the product or service, experience emotional satisfaction from using it, and have a positive perception of quality, all of which can boost their trust in the provider.

In other related development, Thakur (2014) studied the factors that maintain consumers' loyalty in mobile banking. Mumbai, India, was the site of this investigation. The research aimed to determine whether the concepts of customer happiness and loyalty are mutually exclusive within the context of mobile banking. When it comes to banking on mobile devices, these ideas must be emphasized above all else to reach a large consumer base. The method of data collection employed involved sending surveys to those who had previously utilized mobile banking. The responders were mailed an electronic hyperlink to complete these online questionnaires. Out of the five hundred replies, only four hundred were legitimate questionnaires for the data analysis. The results showed that customer loyalty is positively impacted by the level of consumer satisfaction with mobile banking, which is determined by prior usage of mobile banking. Customer satisfaction is positively impacted by the usability and quality of service provided by mobile interfaces. Managers are not the only ones who strive for customer loyalty and happiness. Other objectives may be related to organizational goals, such as innovation in relation to the introduction of new technology and how customers view certain behaviours.

Besides that, the perceived benefit was also cited by Ponsree & Naruetharadhol (2025), as a factor that can affect acceptance and, consequently, the adoption of mobile banking. The techniques employed to collect the data were distinct. Most of the research mentioned above demonstrated that adoption and acceptability of mobile banking technology are not only dependent on perceived benefits. Compatibility, trialability, and system quality were further demonstrated by Chemingui and Ben-Lallouna (2013) as additional factors impacting the use of mobile banking technology. However, Thakur (2014) found that customer loyalty, which is a result of continued use of mobile banking technology, is positively impacted by consumers' happiness from mobile banking that has been created through prior use.

Trust

In the context of this study, Trust refers to the belief in the dependability and genuineness of digital-only banks' services. Trust can also refer to considering the veracity and genuineness of digital-only banks' service, which would elicit positive feelings and trust in the service providers and security (Saif et al. 2024; Wirtz & Lwin, 2009). Trust generally generates a positive sentiment, instils confidence in service providers, and enhances the feeling of security when using the service (Wirtz and Lwin, 2009). Empirical studies on online commerce and services have consistently demonstrated the role of trust as a precursor to perceived value (Ponte et al. 2015; Mokha et al. 2025). Asawawibul et al. (2025) found that customers perceive greater value when they have a higher level of trust in the service providers.

Apart from that, past studies also found that a complex narrative in which digital banks deliver unmatched convenience, but the rising threat of cybercrime poses a considerable concern (Cele & Kwenda, 2025). These consequences include a lack of trust and customer satisfaction, as well as a significant negative impact on the organization's overall functioning. This requires stronger customer awareness, security strategies, and proactive cybersecurity approaches. Of significant importance is promoting awareness around issues of cybersecurity, coupled with fostering collaborative initiatives amongst financial institutions to create a conducive environment for the shift towards the digital banking framework, as well as to ensure that financial transactions are safeguarded in the current technology era (Cele & Kwenda, 2025).

As established, trust has been one of the primary antecedents to perceived value towards online commerce and services where customers realize a higher value from providers they esteem (Ponte et al. 2015). Abror et al. (2022) claimed that perceived value increases with a higher level of trust. However, further escalating cybersecurity issues endanger the ability to maintain user trust in digital banking, as Cele & Kwenda, (2025) highlighted, causing reduced customer confidence and satisfaction. This comes as a stark reminder of the need for proactive cybersecurity measures, customer awareness initiatives, and collaborative efforts among financial institutions to protect transactions and preserve trust in the digital age. In addition, its been argued that a much-needed comprehensive and integrated approach to cybersecurity and digital banking research is still crucial amidst these trust transition crises (Cele & Kwenda, 2025).

Security Risks Management

Identifying cybersecurity threats that hinder the adoption of digital banking and providing sustainable strategies

to combat cybersecurity risks in the banking industry is crucial (Cele & Kwenda, 2025). This aspect was also highlighted by Tham et al. (2017) in an analogous study in Malaysia reveal how security factors impact customer intentions to continue using Internet banking. The result is clear that customers' intention to keep using Internet banking is positively affected by perceived security in terms of authentication, confidentiality and data integrity. This finding emphasizes the importance of the three key components of information security - confidentiality, integrity and availability, which echo the problems cited concerning cybersecurity risks (Bouveret, 2018).

The digital banking sector is experiencing an increasing number of high-tech and sophisticated cyberattacks, which pose significant threats to both financial institutions and their customers. These risks include phishing attacks, malware infections, and more sophisticated attack types, such as ransomware and distributed denial of service (DDoS) attacks. By claiming to be a statement made by a reputable company, phishing attackers dupe people into giving sensitive information, including usernames, passwords, and credit card numbers. Such a cyber threat undermines the security of customers' data as well as reduces the trust and reliability of digital financial services (Saif et al. 2024).

Also, the fact that the digital system in the financial sector is highly interdependent increases the level of impact of cyber-attacks. Just one breach can result in significant disruptions, loss of finances, and a decrease in customer trust. The worthiness and vulnerability of data banks render them a lucrative target to cybercriminals who seek a monetary gain. This is because as digital banking keeps on changing, the sophistication of cyber-attacks also continues to increase. Given these constantly evolving threats, this requires continual improvements in cybersecurity measures to protect against these threats. Cybersecurity must be prioritized in the financial industry agenda because this will aid in protecting the data of clients and their trust of the banking online services (Saif et al. 2024).

The potential threats and vulnerabilities to confidentiality, integrity, and availability of financial data are the risks involved in digital banking security. Cele and Kwenda (2025) argue that there are a relatively large number of cybersecurity threats such as phishing, malware, ransomware, and Distributed Denial of Service (DDoS) attacks that influence trust in the use of digital banking services. Their study discovered that the security features were positively affecting customer willingness to use internet banking in Malaysia (Tham et al. 2017). With the increased complexity and interconnectedness of digital banking systems, the effects of cyberattacks are amplified with financial damage, disruptions in operations, and loss of trust (Bouveret, 2018). Saif et al. (2024) toe the now familiar digital terrain of increased cyber sophistication in the financial sector, which necessitates a continuing arms race in cybersecurity to safeguard clients and prevent erosion of trust in the digital financial services we use. This research therefore recommends that strong and robust security risk management frameworks should be emphasized to reduce the risks, data security and integrity of the online banking systems.

Research Hypotheses

From the analysis of the literature review and the gaps of past studies, five hypotheses were developed, which are illustrated in Figure 1.

H1: Individual awareness positively influences the adoption intention of digital banking services among Gen Z.

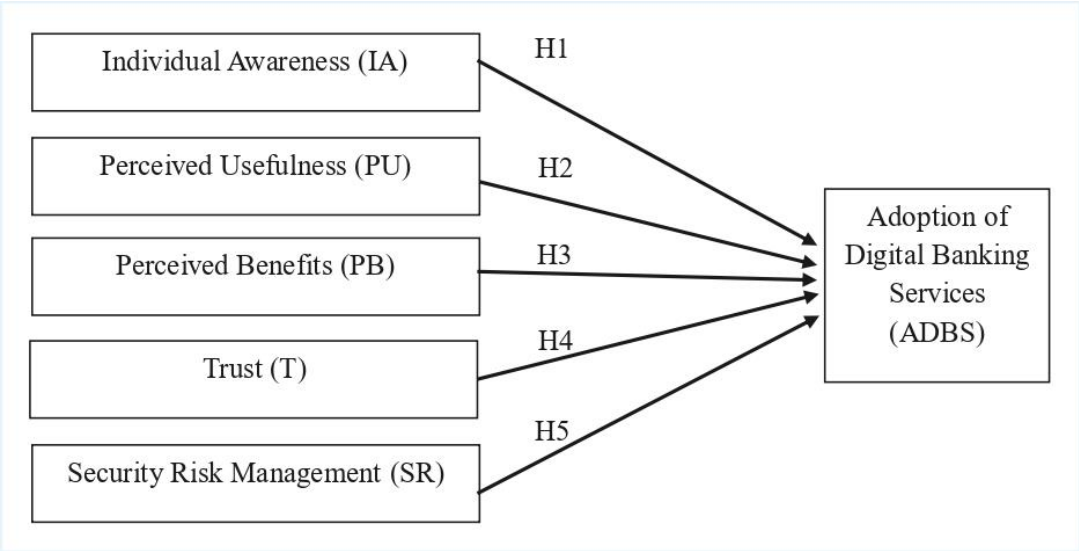
H2: Perceived usefulness positively influences the adoption intention of digital banking services among Gen Z.

H3: Perceived benefits positively influence the adoption intention of digital banking services among Gen Z.

H4: Trust positively influences the adoption intention of digital banking services among Gen Z.

H5: A robust Security Risk Management positively influences the adoption intention of digital banking services among Gen Z.

Figure 1. The Research Framework



METHODOLOGY

The quantitative research approach was used to assess the factors that influenced the intention of Generation Z to adopt digital banking services. Respondents were surveyed using a systematic questionnaire to collect primary data. Quantitative approach best upholds this research as it applies data analytical techniques to measure and analyze variables and further provides a strong framework for modelling inferences from the data.

The target population of the study was Generation Z, i.e. people with an age range of 18 years to 27 years. The group is called digital natives, as they have grown up in modern digital technology and are therefore very skilled and comfortable with digital competencies. Their prowess in technology channels them as a key cohort for understanding the adoption and engagement of digital banking services. Users and non-users of digital banking services formed the sample for the study to enable extensive analysis. This multifaceted strategy ensures an in-depth understanding of the factors influencing adoption, preferences, behaviours, and barriers across this critical age group.

Data collection in this study was based on a probability sampling strategy, which guarantees that every individual of the target population has the same probability of inclusion and therefore reduces the possible selection bias and increases the robustness and generalizability of the findings. This research adopted a two-fold approach that involved not only the physical methods but the online approaches as well, to enhance data collection and make it more representative. Data was collected, where physical surveys were conducted face-to-face with respondents, allowing for more accurate responses and facilitating completion of surveys. According to Bryman (2016), that was very useful in doing research on local behaviour. Meanwhile, the online survey was also distributed through social media platforms such as WhatsApp, Instagram and Facebook statuses to reach the substantial Generation Z population. Online data collection allows for reducing the time and costs of the study and working properly to reach tech-savvy participants (Ling, 2025). These methodologies were integrated enough to enhance the rigour of the study and fully understand the target group.

RESULTS AND FINDINGS

The Cronbach alphas displayed in Table 1 indicate the reliability of the scales measuring different constructs in both the pilot test and actual data collection. Cronbach's Alpha is an index of internal consistency, with values closer to 1.0 indicating greater reliability. In the pilot test, the values range from 0.846 (Security Risk Management) to 0.901 (Dependent Variable), showing that it is a good result. In the actual data, the reliability of all constructs increased further with values between 0.954 (Perceived Benefits and Security Risk Management) and 0.963 (Trust).

Overall, these results suggest that the scales were consistently reliable in both rounds of the test, as all the values were above the standard cut-off point of 0.7.

Table 1. The Reliability Analysis (Cronbach alpha)

NO	VARIABLE	CRONBACH ALPHA	
		PILOT TEST	ACTUAL DATA
1	Dependent Variable – Adoption of Digital Banking Services (ADBS)	.901	.955
2	Individual Awareness (IA)	.887	.955
3	Perceived Usefulness (PU)	.876	. 956
4	Perceived Benefits (PB)	.877	. 954
5	Trust (T)	.870	.963
6	Security Risk Management (SR)	.846	.954

Moreover, the model summary provided in Table 2 gives an idea of the results of the regression analysis. The R-value (0.986) shows that the predictors (IA, PU, PB, T, and SR) have a strong correlation with the dependent variable (ADBS). The value of R-S is 0.972, which indicates that 97.2 per cent of the variance in ADBS is explained by the independent variables, which is an outstanding fit. The adjusted R-Squared (0.971) confirms that the adjusted model maintains its strong performance despite adjusting the number of predictors. The standard error of the estimate (0.18293) means the predictive power of the model on the dependent variable; the lower the values, the higher the predictive power. This table shows that the independent factors have a great explanatory power in predicting ADBS.

Table 2. The Multiple Regression Analysis (Model summary)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.986[a]	.972	.971	.18293

a. Predictors: (Constant), IA. PU, PB, T, SR

b. Dependent variable: ADBS

Furthermore, the analysis of the ANOVA in Table 3 is an analysis of the overall significance of the regression model. The value of the regression sum of squares (338.159) is significantly higher than the value of the residual sum of squares (9.905), indicating that the model explains most of the variation in the dependent variable. F-value (2021.033) is very high, and the level of significance (p = 0.000) is low, indicating that the regression model is statistically significant. All the predictors (IA, PU, PB, T, and SR) have a substantial impact on ADBS. The small amount of leftover variance means that the independent factors are sufficient to explain the variance in the dependent variable. This table corroborates the dependability of the regression model.

Table 3. The Multiple Regression Analysis (One-Way ANOVA)

ANOVA[a]					
Model	Sum of Squares	Df	Mean Square	F	Sig.

1	Regression	338.159	5	67.632	2021.033	.000[b]
	Residual	9.905	296	.033		
	Total	348.065	301			

a. Dependent variable: ADBS

b. Predictors: (Constant), IA, PU, PB, T, SR

Finally, the coefficients analysis displayed in Table 4 is an essential part of every regression analysis, as it tells us how much each independent variable leads to changes in the dependent variable. The predictors are IA, PU, PB, T, SR, and they explain differences of influence in the dependent variable ADBS. Unstandardized and standardized coefficients are displayed, as well as t-values and significance level for each predictor in the table.

Direct effects are indicated by Unstandardized Coefficients (B). For example, IA has the greatest unstandardized coefficient (B = 0.416), which results in a one unit increase in IA to one unit increase in the ADBS while other variables are held constant. In comparison, the unstandardized coefficient for PB (B = 0.131) is relatively low, suggesting its impact on the outcome variable is less. This absolute statistic allows the pattern of influence of predictors. This allows for the quantification of the direct effect of each predictor.

Meanwhile, the standardized coefficients (Beta) give a relative evaluation of the importance of the individual variables by standardizing scales. The largest Beta value is 0.419, indicating that IA is the most important predictor. Conversely, PB among the four important constructs has the least Beta value (0.131), indicating a relatively small contribution. The standardized coefficients facilitate the comparison of the effects of predictors that are measured on varying scales. t-values and significance levels (Sig.) assess the statistical significance of each predictor's effect. The high t-values and p-values below 0.05 (e.g., IA with t = 8.586, p = 0.000) indicate that all items of the predictor of IA have a significant effect on ADBS. This indicates that the associations between the predictors and the dependent variable are not attributable to random variation. The constant (B = 0.020, p = 0.615) lacks statistical significance, indicating it does not contribute meaningfully to the model. This indicates that the predictors account for almost all variance in ADBS.

Table 4. The Multiple Regression Analysis (Coefficients)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.020	.041		.503	.615
	IA	.416	.048	.419	8.586	.000
	PU	.193	.041	.194	4.698	.000
	PB	.131	.043	.132	3.038	.003
	T	.035	.049	.035	.704	.482
	SR	.219	.031	.226	7.018	.000

a. Dependent Variable: ADBS

DISCUSSION OF THE RESULTS AND FINDINGS

With regard to the analysis of Individual Awareness (IA), the p-value obtained from the analysis is 0.000, indicating statistical significance. This result strongly supports the findings of the bivariate analysis, confirming that the relationship being tested is meaningful and not due to random chance. In hypothesis testing, a p-value less than the chosen significance level (typically 0.05) is considered statistically significant, meaning the observed effect is highly unlikely to have occurred by chance. Since the p-value in this case is 0.000, which is much smaller than the 0.05 threshold, it suggests a statistically significant relationship between individual awareness and the adoption of digital banking among Gen Z. Hence, the outcome strongly supports the hypothesis: "H1: Individual awareness positively influences the adoption intention of digital banking among Gen Z", which also corresponds to the research objective and the research question that as Gen Z's become more aware of digital banking services, the consumption of these services increases. This strong finding from the regression analysis also adds to the literature by asserting that the key factor in influencing intentions and behaviour of Gen Z in adopting digital banking was overall individual awareness, thus further asserting the importance of informed decision making in adoption and that education has a major role in technology adoption. The take-home for the business is that it highlights the need to educate/train the consumers about the advantages and usability of these services, as well as compatibility with their needs. Therefore, service providers need to focus on communicating accurate and extensive information as well as positive attitudes toward their services. These initiatives align with previous studies that show awareness is a key component in the adoption of new technologies (Jaafar et al. 2024; Laforet & Li, 2005). Nevertheless, it is suggested that it is not just individual awareness that could drive adoption of mobile banking; emphasis on the combination with other determinants, such as perceived ease of use (functionality), is also recommended (Alalwan et al. 2016). Hence, the framework of this study considered a combination of other feasible factors as well.

Meanwhile, the second analysis, which focused on the factor of Perceived Usefulness (PU), reveals the p-value is 0.000, lower than the 0.05 threshold, which means it is significant. These tests show a significant relationship between the two variables and confirm that this relationship is not due to changes over time or random fluctuations away from the underlying pattern shown in the bivariate analysis, and this further establishes that there is indeed a statistically significant correlation present between perceived usefulness and the adoption of digital banking within Gen Z. Thus, the findings confirm the hypothesis that "Perceived usefulness positively influences the adoption intention of digital banking among Gen Z," which is consistent with the study's objectives; where, when Gen Z view digital banking as a useful tool, the tendency to adopt it increases. Such information showcases the importance of perceived usefulness in the comparative adoption of the new technologies. For example, to promote mobile banking, service providers need to make these services time-saving, user-friendly, efficient and more flexible than the traditional method. These features increase the perceived value of mobile banking, which is welcomed by consumers. These results are consistent with previous studies, which have also pointed out perceived usefulness as a vital factor for adoption (Mohammadi, 2015). In addition, other studies in that area, like those of Venkatesh and Davis (2000), emphasized that users are more inclined towards the utilization of technologies that have the perceived usefulness for attaining their goals further reinforcing the importance of this element concerning mobile banking adoption.

Consequently, the next assessment on the third factor of Perceived Benefits (PB) produces a p-value of 0.003, the analysis indicates statistical significance, confirming that the relationship examined is meaningful and not due to chance. A p-value less than 0.05 is considered to be a significant relationship, and since the p-value here is much less than the 0.05 threshold, it helps to support the hypothesis of the existence of a statistically significant correlation between perceived benefits and the adoption intention of digital banking among Gen Z. This observation is consistent with the objectives of the study and demonstrates that the more Gen Z learns about the benefits of using digital banking services, such as convenience and savings, the more they become intent on using these services. The regression analysis also highlights the importance of Perceived Benefits in influencing their adoption behaviour, as well as supporting the notion that the perceived advantages are crucial in driving their adoption behaviour. With regards to this finding, to achieve widespread adoption of digital banks, bankers should provide their customers with special solutions that are more convenient, save more time, and require less effort compared to other traditional methods, but with a better level of privacy. These benefits add to the appeal of digital banking and make it an attractive option for consumers. These results are in line with previous research,

ultimately supporting the importance of Perceived Benefits in the decision to adopt (Chaimaa et al. 2021; Thakur, 2014; Chemingui & Ben Lallouna, 2013). In addition, the other quite similar study by Venkatesh & Davis et al. (2000) and Alalwan et al. (2016), perceived convenience and privacy play a considerable role in making digital banking services attractive, which further enhances their favourable effect towards adoption intentions.

In other developments of this research, statistical analysis was performed on another factor of Trust (T), and the p-value was 0.482, which further indicates that it is not statistically significant. Since it is greater than the commonly used significance value of 0.05, it indicates that the supposed relationship between both variables is not significant at the level. This result implies that the association is probably coincidental, and the results from the bivariate analysis are not confirmed by the regression analysis. Based on this outcome, there is no platform available to support the proposition that "Trust positively influences Gen Z regarding digital banking adoption", which gives strong confirmation towards the study's purpose of investigating the potential significance of trust on the digital banking adoption. Since the variable representing trust in digital banking has shown no statistically significant correlation with the adoption behaviour of Gen Z, it may be concluded that trust is not the crucial factor underpinning Gen Z's adoption of digital banking service, and perhaps other, more innovative factors could be driving this behaviour. According to the findings, Trust is statistically insignificant in determining the adoption of digital banking services among Gen-Z. Although trust has often been mentioned as a significant factor to be considered when embracing technology, the fact that trust could not be found significant in this study suggests that, in the case of this group of users, other factors such as convenience, user experience or peer influence could be of more importance than trust. This incredible result is reflective of Gen-Z's unique features, in which convenience and futurism may mean more when it comes to traditional perceptions of trust in financial firms. Future research can examine whether it is valid in other settings or test other moderating variables that can influence the manner in which trust is correlated with digital banking adoption. These findings underscore the importance of customizing strategies based on the individual appetites and behaviours of Gen-Zers.

Finally, the aspect of Security Risk Management (SR) leads to the p-value obtained based on the findings, which the p-value is 0.000, showing that there is a statistically significant relationship between security risk management and Gen Z's adoption intention of digital banking. These results of the regression analysis highlight the importance for financial institutions to act on these security concerns, as addressing the perception of prudent security risk management is crucial in enhancing the adoption of mobile payment systems among members of Generation Z. As per the findings, interestingly, robust Security Risk Management plays a significant role in the decision-making process of Gen-Z when adopting digital banking services. The significant finding highlights the need to provide assurance of security concerns addressed, given how tech-savvy, yet increasingly aware of cybersecurity threats, the generation is. Thus, to foster greater adoption, financial institutions must emphasize excellent security measures, transparency, and continued efforts to build trust. These findings present possibilities for further studies in the investigation of this interplay in a closer way, particularly under the changing technological environments.

Significance of the study

The results of this research add to both theoretical and practical implications. The research on the uptake of digital banking services among Gen-Z added to the preexisting body of knowledge related to the subject of digital banking, technology adoption models, and consumer behaviour. Another new demographic component that the research delivers to the literature on technology acceptance is its specific focus on Gen-Z. In this regard, Gen-Z, as digital natives, provides novel insights into how younger consumers view and engage with digital banking solutions, something which has been largely overlooked by previous studies that have mostly focused on older generations. It is an important study to the extension and development of existing theoretical frameworks, in particular, the Technology Acceptance Model (TAM) and Unified Theory of Acceptance, in the context of banking institutions.

Theoretically, the contribution will provide significant benefit in understanding how Individual Awareness (IA), Perceived Usefulness (PU), Perceived Benefit (PB), Trust (T), including the robust Security Risk Management (SR), affect Gen-Z to either adopt the digital banking system. The inclusion of the mentioned items, which are relevant for the younger generation, will help the study fill the gaps that emerged from earlier studies that may yet be considered the Gen Z-specific expectations and preferences. The new insights from these findings will

help scholars better frame these constructs, first, in terms of their interrelatedness and second, in terms of informing the adoption of digital banking, thus contributing to theory on technology adoption in the context of emerging markets. As a result, the study adds to existing scholarship that looks at the convergence of digital banking and generation characteristics. Gen-Z is the generation to have a close relationship with technology, and as this generation enters the job market involving liberalized financial services, they may develop their way to interact with it entirely differently from previous generations. The study's findings can also help lead to further investigations into digital finance and other technologies that will play an imminent role in shaping the future of the financial industry.

In the meantime, to both policymakers and financial regulators, the study highlights the importance of establishing a regulatory environment that balances the development of digital banking services and consumer protection, especially among the younger users. Having an understanding of the factors behind the trust and propensity to adopt digital banking among Gen-Z, regulators will be in a position to take more effective actions in ensuring transparency, better user education and ensuring accessibility and security of digital platforms and services. This study can potentially benefit policymakers not only by empowering the framework of the digital financial system but also by providing the younger generation of consumers with the tools they need to resolve the issue of privacy, security, and financial literacy. Working closely with financial institutions, the digital banking ecosystem should be safe and accessible to all consumers, with special attention to Gen-Z. This will help in establishing a stronger, inclusive digital economy in Malaysia.

In terms of practical implications, the research findings indicate that the study would be of great benefit to the banking industry in a practical context, both in Malaysia and Indonesia. As digital banking services keep gaining popularity, the banks must understand what Gen-Z consumers would prefer to optimize their digital products and services to this demographic. Since Gen-Z will account for a large part of the consumer base in the future, the insights can help build better marketing strategies, customer engagement practices, and service offers. Also, the practical considerations include creating intuitive user interfaces and security measures, which will meet the expectations and concerns of younger clients, leading to increased acceptance. More specifically, this research plays a key role in developing tailored informational and outreach programs aimed at boosting the use of digital banking. Such understanding of how Gen-Z identifies all the major positive determinants will assist banks in developing specific communication strategies based on such findings. By focusing on these aspects, financial institutions will be able to provide a seamless adoption process to Gen-Z, allowing the further development of digital banking services and the sustainability of digital banks in the competitive banking environment in the region.

CONCLUSION

The purpose of this research is to analyze the factors determining the adoption of digital banking services among Gen-Z, as this generation presents a lucrative market that will dictate the direction of the banking sector in the coming years. The theoretical and practical implications of findings on digital banking adoption seeks to provide additional insight into how Gen-Z interacts with digital banking platforms an increasingly important factor for financial institutions to consider as they devise strategies to capture this tech-savvy generation by analyzing critical differences, including Individual Awareness (IA), Perceived Usefulness (PU), Perceive Benefit (PB), Trust (T), and the robust Security Risk Management (SR). The research also sheds light on the importance of these influencing factors for digital banking platforms. As an example, based on the results, since Gen-Z is more concerned with how security risk is managed than their predecessors, digital banking institutions must ensure that their platforms are not only technologically superior but secure and simple. This will be key to winning over this segment and enabling broader uptake. Moreover, financial institutions must offer more customized products and services which meet the specific financial needs and preferences of Gen-Z based on their digital lifestyles. Ultimately, although there are many challenges in achieving a more nuanced understanding of the adoption behaviours regarding Gen Z, this research sets the stage for future studies in the adoption of digital banking that study those nuances in depth. Future research can further broaden the sample size or study other generation cohorts and/or other regions to get a better comprehensive notion of the trends of digital banking adoption in Malaysia, Indonesia and elsewhere. This type of ongoing effort will be important in enabling the banking sector

to remain agile and responsive to the constantly changing needs of an ever increasingly digitally connected generation.

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