Vol 5 No 2 (2025) ISSN: 2785-9266

Issues and Perspectives in Business and Social Sciences

# Factors influencing the adoption of digital banking among university students in urban areas: A comparative analysis using Analytical Hierarchy Process (AHP)

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**Abstract**

Financial institutions are experiencing profound impacts from the rapid expansion of digitization. Raised in the era of the internet and social media, Generation Z has been exposed to these innovations extensively. The primary aim of this study is to explore the factors influencing the adoption of digital banking among university students, focusing on Generation Z in urban areas. One hundred pairwise questionnaires were distributed to university students in the Klang Valley via convenience sampling for the survey. The study evaluates five main factors - ease of use, security, online responsiveness, trust, and usefulness to be ranked through the Analytical Hierarchy Process (AHP) method. The AHP results indicate that usefulness emerged as the top priority, followed by security, in the context of digital banking adoption. Moreover, comparative analysis based on gender and education level reveals nuanced differences. Male respondents prioritize security highly, while female respondents emphasize usefulness. Similarly, those with higher education levels prioritize usefulness, whereas diploma holders prioritize more on security. By employing the AHP and conducting a comparative analysis, this study aims to address gaps in the existing literature on digital banking. Its findings are expected to aid financial institutions in enhancing their digital banking services and quality, which could potentially expand the efforts of bridging the financial inclusion gap to underserved populations in regions with low levels of access.

**Keywords:**
Digital banking;
AHP;
Generation Z;
Klang Valley;
Financial inclusion.

**Received** May 24, 2024
**Accepted** Jan 27, 2025
**Published** Jun 14, 2025

## 1. Introduction

Recent strategies adopted by banking institutions are to simplify all banking procedures across multiple platforms to ensure effective service delivery. Whether it is at corporate headquarters, branch offices, online services, bank cards, ATMs, or POS devices, the aim of each platform is to execute various tasks with equal efficiency. The outbreak of the COVID-19 pandemic has accelerated the need for banking institutions to increase efficiency via digitalization in their routine processes (Yildirim & Erdil, 2024). Hence, the rise of digital banking in Malaysia to streamline overall banking operations with technology can improve their service delivery and customer satisfaction, which parallel with global trends. The issuance of the Policy Document on Licensing Framework for Digital Banks by the Bank Negara Malaysia (BNM) on 31st December

Issues and Perspectives in Business and Social Sciences (20XX) Issue 2: 151–162.
doi: https://doi.org/10.33093/ipbss.2025.5.2.5

URL: https://journals.mmupress.com/index.php/ipbss

2020 has marked the beginning of digital banking in Malaysia with a robust regulatory framework towards benefiting diverse consumers through more personalized, secure, and innovative banking solutions (Bank Negara Malaysia, 2020).

Meola (2023) highlights that Generation Z is leading the way in utilizing digital platforms, such as e-wallets and e-payments extensively. Their unwavering embrace of technology has compelled financial institutions to integrate cutting-edge systems and contemporary banking practices, challenging long-standing norms. The need to adapt to the fast-changing demands of a tech-savvy generation and capitalize on the benefits and developments offered by technology is driving the transition within the banking industry. Generation Z, which was born between 1997 and 2012, as stated by Meola (2023), constitutes the most significant demographic, which drives the surge in demand for digital banking services.

Additionally, Generation Z, also named the "Touchscreen Generation," was raised during the mobile banking era (Huan, 2022). Their early exposure to touchscreen technology throughout their early adoption of digital financial instruments has given them an extra benefit during their formative years. This dynamic generation is not merely adopting digital banking, but they are also leading the transformative shifts that will essentially shape the future according to their preferences and needs. They show a clear preference for digital banking apps and touch-sensitive familiarity with smartphones that make transactions such as checking deposits or transferring money between accounts smooth and effective (Petrova, 2023). In response to the shift in the market landscape, financial institutions are aggressively expanding the range of their online-accessible products and services offered.

Financial institutions may also effectively align their strategy with customer demands by gaining insights into the essential factors driving the adoption of digital banking. This ensures not only the improvement of digital banking services to meet evolving client needs but also makes a significant contribution towards closing the financial inclusion gap. In essence, this research aims to serve as a guiding roadmap for financial institutions, steering them toward a future where digital banking not only meets but exceeds customer expectations. The objectives of this study encompass the development of a hierarchical framework to understand the factors influencing the adoption of digital banking among Generation Z, specifically focusing on university students in urban areas. Additionally, it seeks to explore the prioritized choices among this generation cohort regarding the factors influencing the adoption of digital banking by employing the Analytical Hierarchy Process (AHP) methodology to prioritize these factors effectively.

## 2. Literature review

"Digital banking" is commonly interchanged with "virtual banking" and "internet banking," leading to potential confusion with "branchless banking" or "digital-only banking". By definition, digital banking applies technological solutions to guarantee the efficient handling of banking operations and transactions from beginning to end. Branchless banking, on the other hand, refers to financial services conducted entirely without physical bank branches, relying fully on virtual operations and existing technology, thus removing the need for any physical banking infrastructure (Windasari et al., 2022; Aziz et al., 2022).

Varda and Shubham (2018) noted the extensive scope of digital banking, which includes online banking, mobile banking, automated teller machines, plastic cards, electronic clearing services, electronic fund transfers, and computer or home banking. Sutikno et al., (2022), on the other hand, categorize digital banking into specific domains such as online banking, mobile banking, SMS banking, and automated teller machine services. Revathi (2019) provides digital banking as a recent innovation of financial digitalization, which includes plastic money, such as debit, credit, and smart cards, as well as internet banking, which is built with electronic payment services. This

digital wave, which includes phone banking, branch networking, digital wallets, mobile applications, trading accounts, and online investment, demonstrates the flexibility and comprehensiveness of modern financial services. Taken together, the state of digital banking at this point is characterized by its varied offerings, which collectively challenge assumptions about how people use money and lead the way for a more relevant and accessible financial future.

## 2.1 Factors influencing adoption of digital banking

### *2.1.1 Usefulness*

In an in-depth investigation carried out by Chong et al., (2010), the notion of usefulness in the domain of online banking is defined as the degree to which clients perceive routine transactions as beneficial, effective, and convenient, particularly when compared with the traditional approach of physically visiting a bank branch. Similar significant findings were identified in studies by Ahmad et al., (2010), Chang et al., (2020), Firdous and Farooqi (2017), Khan et al., (2017), and Rehman et al., (2019), where all are highlighting the crucial role of usefulness in driving the adoption of digital banking. Despite the diverse geographic locations of these studies, encompassing Malaysia, India, and Mongolia, they collectively advocate for banks to prioritize the usefulness of their digital banking services. In contrast, findings in Tiong (2020) suggested that there was no significant correlation between perceived usefulness and the intention to utilize digital banking services. It is crucial to note that Tiong's study specifically targeted a general Malaysian demographic, including respondents' professional backgrounds, age ranges, or geographic locations, which could have produced such results.

### *2.1.2 Security*

Kalakota and Whinston (1997) assert that "circumstances, conditions, or events with the potential to economically harm data or network resources in the form of data destruction, disclosure, modification, denial of service, fraud, waste, and abuse (p.123)" are considered potential threats to security, including cybersecurity. Security was identified as a significant factor influencing the adoption of mobile banking by Osmani et al., (2017), which was conducted among Iranian specialists in online banking. Furthermore, studies by Aziz et al., (2021), Montazemi and Qahri-Saremi (2015), and Rehman et al., (2019) concur that security plays a crucial role in influencing the decision to adopt digital banking.

### *2.1.3 Trust*

Kumra and Mittal (2004) stated that the banking industry describes customer trust as an intense awareness of security and accuracy, instilling people with confidence that the organization will diligently address their needs. Djalil et al., (2020) argue that trust is an important factor driving the adoption of digital banking in the Indonesian city of Banda Aceh. The research by Khan et al., (2017) provides additional support for this argument, presenting solid evidence of a significant relationship between consumer intentions to utilize digital banking and trust. Furthermore, Osmani et al., (2017) corroborate these findings, highlighting the important factor that trust serves in the adoption of digital banking.

### *2.1.4 Online responsiveness*

Asad et al., (2016) describe online responsiveness as a broad range of actions, including resolving transaction issues and promptly responding to consumer concerns. However, a study by Aziz et al., (2021) indicates that online responsiveness is the least important element in the adoption of online banking. Asad et al., (2016) also found that ease of use is given higher priority than online

responsiveness for customer satisfaction in online banking systems. Conversely, Mwiya et al., (2022) show that responsiveness significantly enhances consumer satisfaction with digital banking.

#### *2.1.5 Ease of use*

Perceived ease of use, as defined by Davis et al., (1992), refers to the degree to which a person believes that using a particular technology would be easy and effortless. This concept of ease, synonymous with freedom from difficulty or great effort, underlies this perception. It is well understood that individuals have limited capacity to allocate effort to their various responsibilities. While Chong et al., (2010) found no significant relationship between perceived ease of use and customers' intention to use online banking, Chang et al., (2020) and Tiong (2020) yielded contradictory results, indicating a positive correlation between ease of use and the adoption of digital banking. Windasari et al., (2022) also found that the perceived ease of using digital banking applications positively affects customers' intentions (Gen Y and Gen Z) to adopt digital banking. When a digital application is simple, convenient, and easy to navigate, customers are more likely to become familiar with it and willing to use it.

## 3. Methodology

### 3.1 Data

Students from five public universities and five private universities situated in the urban districts of Kuala Lumpur and Selangor have been identified as the target population. The convenience sampling method was adopted due to practical reasons (Etikan et al., 2016). Respondents were reached out via social media, student representatives, and student clubs and societies of the selected universities. One hundred respondents responded to the pairwise questionnaires introduced by Saaty (1980) for the AHP method. The method effectively tracks the logical consistency of opinions and judgments used by the respondents to determine priorities, making the sample size a less critical factor with the condition the respondents are knowledgeable about the decision problem (Saaty, 1980).

### 3.2 Analytical Hierarchy Process (AHP)

The AHP method has received wider attention in various fields over the years (Saaty, 1980). It is one of the prominent Multi-Criteria Decision Making (MCDM) techniques that offers decision-makers a solution to prioritize, predict or control a complex problem of interrelated components. This method is frequently applied to decision problems in areas such as economics and planning. The basic AHP process includes five stages as follows:

**Step 1**: This step involves establishing the hierarchy model to decompose the decision problem. Figure 1 is the hierarchy framework for this study based on the discussion and findings from the literature review on the factors influencing the adoption of digital banking.

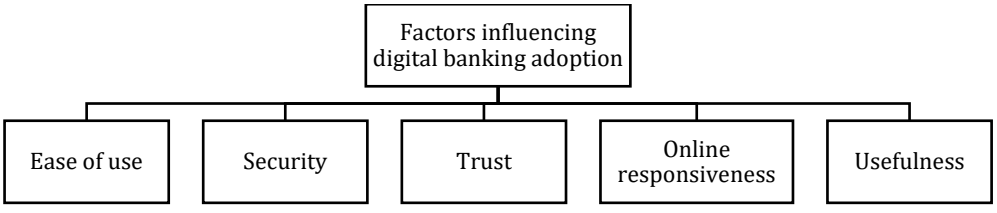


*Figure 1: Hierarchy framework*

**Step 2**: The next step is to create a pairwise comparison, allowing respondents to systematically determine the intensities of interrelationships between the decision factors involved in this study. The respondent was required to determine the relative importance of each pair of factors based on their experience and judgment. Subsequently, the intensity and importance of the factors need to be decided by the respondent. The fundamental nine-point intensity scale by Saaty (1980), as shown in Table 1, was adapted in this study to aid respondents in evaluating pairwise comparisons between two factors for a standardized and quantitative means of expressing their preferences.

***Table 1: Nine-point intensity scale for pairwise comparison.***

| Intensity of importance | Definition | Explanation |
|---|---|---|
| 1 | Equally important | When two factors are equally important |
| 3 | Moderately important | Experience and judgement slightly favour one factor over another |
| 5 | Strongly important | Experience and judgement strongly favour one factor over another |
| 7 | Very strongly important | A factor is favoured very strongly over another, its dominance demonstrated in practice |
| 9 | Extremely important | The evidence favouring one factor over another is of the highest possible order of affirmation |
| 2,4,6,8 | Intermediate values | Used to represent a compromise judgment between the preferences listed above |
| Reciprocals of above | If activity i has one of the above nonzero numbers assigned with activity j, then j has the reciprocal value when compared with i | A comparison is required when estimating the larger element as a multiple of the smaller element by using the smaller element as the unit. |

Table 2 shows an extract of the AHP pairwise comparison for the priority factors of digital banking adoption completed by one of the respondents. In Row 1, the respondent gives higher priority to the security factor than each of the use factors. In Row 2, the respondent indicated that ease of use and online responsiveness are of equal weight. In Row 3, the respondent indicated that ease of use is considerably more important than trust.

***Table 2: The pairwise questionnaires***

| Extremely ◄ | | | | | | Equally | | | | | | ► Extremely | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Ease of use | | | | | | | | | | | | | | | / | | Security |
| Ease of use | | | | | | | | / | | | | | | | | | Online responsiveness |
| Ease of use | | | | | | / | | | | | | | | | | | Trust |

**Step 3**: After each factor has been compared, the information can be concisely transformed into a judgment or comparison matrix of 5x5. Each entry of the comparison matrix is the answer to a typical question, 'Between the two factors 1 and factor 2, which one is more important, and what is the degree of this importance?' Thus, if the judgement is marked on the left side of 1 (equally important) in the pairwise questionnaire, the exact intensity figure will be filled up in the upper

triangular matrix. Whereas, if the judgement is marked on the right side of 1 between the two factors, the reciprocal values of the upper diagonal will be filled up, as shown in Table 3.

***Table 3: Example of 5 by 5 matrix by respondent #1***

| | Ease of Use | Security | Trust | Online Responsiveness | Usefulness |
|---|---|---|---|---|---|
| Ease of Use | 1 | 9 | 9 | 9 | 9 |
| Security | 1/9 | 1 | 1/7 | 1/7 | 1/7 |
| Trust | 1/9 | 7 | 1 | 1 | 1 |
| Online Responsiveness | 1/9 | 7 | 1 | 1 | 1 |
| Usefulness | 1/9 | 7 | 1 | 1 | 1 |

**Step 4**: The summation in each column of the comparison matrix is determined before each element in the matrix can be divided by its column total to get the normalized weight (See Table 4).

***Table 4: Computation of criteria weights using the row-column normalization method (respondent #1)***

| | **Summation** | | | | | **Normalized** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Ease | Security | Trust | Response | Useful | Ease | Security | Trust | Response | Useful |
| Ease | 1 | 9 | 9 | 9 | 9 | 9/13 | 9/31 | 63/85 | 63/85 | 63/85 |
| Security | 1/9 | 1 | 1/7 | 1/7 | 1/7 | 1/13 | 1/31 | 1/85 | 1/85 | 1/85 |
| Trust | 1/9 | 7 | 1 | 1 | 1 | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 |
| Response | 1/9 | 7 | 1 | 1 | 1 | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 |
| Useful | 1/9 | 7 | 1 | 1 | 1 | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 |
| Total | 13/9 | 31 | 85/7 | 85/7 | 85/7 | 1 | 1 | 1 | 1 | 1 |

The final process in step 4 is to compute the average of the elements in each row of the normalized matrix to get the weight of each factor, as shown in Table 5.

***Table 5: Computation of weights for each factor of digital banking adoption.***

| | Ease of Use | Security | Trust | Online Responsiveness | Usefulness | Weighted Sum Value |
|---|---|---|---|---|---|---|
| Ease of Use | 9/13 | 9/31 | 63/85 | 63/85 | 63/85 | 3.5403 |
| Security | 1/13 | 7/31 | 1/85 | 1/85 | 1/85 | 0.3424 |
| Trust | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 | 0.4579 |
| Online Responsiveness | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 | 0.4579 |
| Usefulness | 1/13 | 7/31 | 7/85 | 7/85 | 7/85 | 0.4579 |
| Weight of each factor | 3.2062 | 0.3380 | 0.5498 | 0.5498 | 0.5498 | **5.2564** |

**Step 5**: This step involves calculating the consistency index ($CI$) and consistency ratio ($CR$) of the matrix using the following formula:

$$CI = \frac{\lambda \max - n}{n - 1}$$

$$CI = \frac{5.2564 - 5}{5 - 1}$$

$$CI = 0.0641$$

If $CI$ = 0 (meaning that $\lambda = n$), the comparison matrix is perfectly consistent, and there is no inconsistency in it. Subsequently, the consistency ratio ($CR$) is computed, where the random index

(*RI*) value (see Table 6) is taken from a standard table introduced by Saaty (1980) for various sizes of the comparison matrix.

***Table 6: Random Index (RI)***

| *n* | 1 | 2 | 3 | 4 | **5** | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| RI | 0.00 | 0.00 | 0.58 | 0.90 | **1.12** | 1.24 | 1.32 | 1.41 | 1.45 | 1.49 |

$$CR = \frac{CI}{RI}$$

$$CR = \frac{0.0641}{1.12}$$

$$CR = 5.7\%$$

The comparison matrix for respondent #1 in this study exhibits a *CR* of 5.7%, indicating that the level of inconsistency present is still within an acceptable range for the study. This determination is based on adherence to the acceptable level for inconsistency, wherein the *CR* value should be less than 10%.

**Step 6**: From the 100 sets of pairwise questionnaires distributed for this study, 80% were acceptable, with a level of *CR* less than 10%. Then, the aggregated weight is obtained from the group of respondents to compose the final weight for prioritization. This average value is calculated using the geometric means $[g_j]$ aggregation method, where *n* is the number of respondents with an acceptable level of inconsistency.

$$g_j = \sqrt[n]{\prod_{i=1}^{n} w_{ij}}$$

## 4. Results and discussion

### 4.1 Demographic result

The AHP strategy aims to enhance the accuracy of the gathered data by ensuring a comprehensive understanding of the respondents to answer the pairwise comparison questionnaire. Out of the 100 sets of responses received, only 80% of them proved usable, as the remaining 20% failed to meet the required consistency ratio target of less than 0.1 or 10% and, thus, were discarded. The remaining sample comprises 54% male and 46% female respondents. The majority of respondents were pursuing bachelor's degrees (88.75%), and a smaller cohort representing individuals at the diploma (10%) and master's degree levels (1.25%).

### 4.2 Prioritization on factors influencing digital banking adoption

Determining the importance of each of the different factors influencing the adoption of digital banking is an essential first step towards understanding the detailed dynamics influencing users'

choices. The relative significance and impact of every factor have been measured through an in-depth review and analysis, providing a better understanding of their individual contributions to the adoption factors.

Table 7 presents the weighted values for this study. Upon analysis of the tabulated data, it can be inferred that the factor accorded the highest priority is usefulness, with a weight value of 0.2958. This finding aligns with the factors influencing the adoption of online banking as identified by Montazemi et al., (2015) through a meta-analytic structural equation modelling study. Additionally, this is supported by Chang et al., (2020), which found that the importance of usefulness positively affects behavioural intention in internet banking adoption in Mongolian banks. However, it is important to note that differences may arise due to variations in the digitalization landscape influenced by factors such as economic environment, regulatory frameworks, and technological infrastructure.

***Table 7: Priorities and corresponding ranks on factors influencing digital banking adoption***

| Factors | Weights | Rank |
|---|---|---|
| Usefulness | 0.2958 | 1 |
| Security | 0.2013 | 2 |
| Trust | 0.1972 | 3 |
| Online Responsiveness | 0.1563 | 4 |
| Ease of Use | 0.1494 | 5 |

Subsequently, the second-highest priority was attributed to the security factor, which is contrary to findings by Rehman et al., (2015). Their study indicated that security risk did not significantly affect consumers' attitudes towards using mobile banking. The variance in findings could be attributed to differences in target respondents; the previous study encompassed a diverse demographic of Malaysians across various age groups, while the current study specifically addresses university students in urban areas.

The trust factor, with a weight value of 0.1972, forms the third prioritized factor. Conversely, factors denoting the lowest priority in influencing digital banking adoption are online responsiveness and ease of use, with weight values of 0.1563 and 0.1494, respectively. A study by Aziz et al., (2021) similarly found that online responsiveness ranked lowest, potentially influenced by the shared target area of urban regions surrounding Kuala Lumpur and Selangor.

### 4.3 Gender-based variation and priority factor

Based on Table 8, it can be concluded that male respondents prioritize security (aggregate weight = 0.254) with the highest aggregated weight, followed by usefulness (aggregate weight = 0.2007) and trust (aggregate weight = 0.1893). Conversely, the lowest aggregated weights among male respondents are associated with trust and ease of use, registering values of 0.1893 and 0.1564, respectively.

***Table 8: Aggregated weight on factors influencing digital banking adoption by gender.***

| | Male | | Female | |
|---|---|---|---|---|
| Factor | Aggregated Weight | Rank | Aggregated Weight | Rank |
| Ease of use | 0.1564 | 4 | 0.1619 | 5 |
| Security | 0.254 | 1 | 0.2144 | 3 |
| Trust | 0.1893 | 3 | 0.2673 | 2 |
| Online responsiveness | 0.1563 | 5 | 0.1988 | 4 |
| Usefulness | 0.2007 | 2 | 0.394 | 1 |

Similarly, the analysis of female respondents reveals that the highest aggregated weight is assigned to usefulness, with a value of 0.394, followed by trust (aggregate weight = 0.2673) and security (aggregate weight = 0.2144). Conversely, the lowest aggregated weights for female respondents are associated with online responsiveness (aggregate weight = 0.1988) and ease of use (aggregate weight = 0.1619).

Differing preferences between male and female respondents could arise from various factors, such as biology, emotions, society, and culture. It is important to emphasize that individuals have different interests, and not all conform to established gender expectations. The results suggest that males are more likely to prioritize security and safety issues when using digital banking, whereas females tend to prioritize the system's usefulness, indicating a preference for efficiency and ease in various digital interactions.

### 4.4 Education level and priority factor

The analysis of aggregated weight results across the three education levels, as shown in Table 9, leads to the conclusion that each group of education level manifests its own distinct prioritization. Within the bachelor's degree group, the leading prioritized factor was usefulness (aggregate weight = 0.3066), while the lowest aggregated weight was attributed to ease of use (aggregate weight = 0.1553). Conversely, the diploma group exhibited a pronounced prioritization of security (aggregate weight = 0.2639), with usefulness registering the lowest aggregated weight (aggregate weight = 0.1513) within this cohort. For the master's degree group, usefulness emerged as the foremost priority (aggregate weight = 0.3315), while the lowest aggregated weight was associated with security (aggregate weight = 0.1179). These results highlight that people with different levels of education prioritize things in slightly different ways.

***Table 9: Aggregated weight on factors influencing digital banking adoption by education level.***

| | Bachelor's degree | | Diploma | | Master's degree | |
|---|---|---|---|---|---|---|
| | Agg. Weight | Rank | Agg. Weight | Rank | Agg. Weight | Rank |
| Ease of use | 0.1553 | 5 | 0.199 | 2 | 0.1784 | 4 |
| Security | 0.2313 | 3 | 0.2639 | 1 | 0.1179 | 5 |
| Trust | 0.2373 | 2 | 0.1521 | 3 | 0.2628 | 2 |
| Online responsiveness | 0.1798 | 4 | 0.151 | 4 | 0.2413 | 3 |
| Usefulness | 0.3066 | 1 | 0.1513 | 5 | 0.3315 | 1 |

A study by Al-Shuaibi (2014) stated that education involves the acquisition of knowledge and information, ultimately paving the way for a prosperous future. As previously mentioned, the numerous benefits of education encompass establishing a successful career, achieving a respected societal status, and fostering self-confidence. Education instils in individuals the ability to perceive obstacles as challenges to be fearlessly overcome and to embrace new experiences. Diverse levels of education lead to varying preferences among individuals, influenced by how education shapes their thinking, financial circumstances, and exposure to different ideas. Educated individuals often make well-informed decisions, resulting in unique tastes and lifestyles. Social factors, such as interactions with others and cultural influences, also contribute significantly to shaping these preferences.

Preference differences are observed in the specific educational environments. For example, graduate students pursuing bachelor's degrees and master's programmes tend to prioritize factors of usefulness, whereas students enrolled in diploma programs frequently prioritize

security considerations. Students in graduate programmes place a higher priority on features that improve the effectiveness and functioning of online banking services because they recognize their value. On the other hand, students in diploma programmes, being at an earlier educational stage, might prioritize security more because of their limited exposure and experience with digital banking. Their concerns about security issues include fears of unauthorized access to their private information by hackers or falling victim to fraudulent activities (Joel, 2015). This stage in their education may be the source of their heightened attention to privacy and safety concerns in digital transactions.

## 5. Conclusions

This study contributes to the existing body of knowledge on the factors influencing the adoption of digital banking among university students in urban areas. By utilizing the Analytical Hierarchy Process (AHP) method as the primary analytical tool, it adds significant value to the research. The AHP method uses a qualitative approach to decompose an unstructured problem into a systematic decision hierarchy and a quantitative approach that employs a pairwise comparison matrix to test and validate the consistency of responses from a set of questionnaires (Yoon & Hwang, 1995). As one of the best-known and widely used decision-making models, AHP enhances the accuracy and reliability of prioritization decisions, making it highly valuable for researchers and practitioners alike.

The prioritization of factors involved in this study highlights the significance of usefulness as the primary driver, followed closely by security factors, in shaping the adoption of digital banking. This observation aligns with the increasing demand for digital financial services in Malaysia. Consequently, financial institutions that strategically prioritize these elements may expand the consumer appeal of their online banking services to a larger demographic, particularly university students, thus potentially growing their customer base and boosting profit margins in response to the rising demand.

Furthermore, a comparative analysis of this study revealed different preferences between groups of different genders and educational levels. Male respondents exhibited a higher tendency toward prioritizing security, whereas female respondents emphasized the importance of usefulness in digital banking adoption. Similarly, individuals pursuing higher education levels displayed a greater emphasis on the usefulness aspect compared to those with diploma qualifications, who leaned toward prioritizing security considerations.

However, limitations were noted in this study as respondents were mainly concentrated in urban areas around Kuala Lumpur and Selangor. Therefore, the generalisability of the results to the broader Malaysian context may be limited. To mitigate this limitation, future studies should aim to involve university students from different states in Malaysia to achieve a more inclusive representation. Additionally, the use of alternative analytical methods could further validate and strengthen the robustness of these results.

Essentially, this study serves as a valuable foundation for financial institutions aiming to boost their digital banking services and provides useful insights for a variety of stakeholders, including businesses and individuals who frequently engage in digital banking transactions. The implications of the findings are significant, as they can aid financial institutions in improving the quality of their digital banking services. This could potentially expand the efforts to bridge the financial inclusion gap for underserved populations in regions with low levels of access.

## Acknowledgement

The author gratefully acknowledges the respondents for their valuable input and Universiti Sains Islam Malaysia (USIM) for the support and resources provided throughout this study.

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