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# EXAMINING MOBILE BANKING PERFORMANCE AMONG COLLEGE STUDENTS IN INDONESIA

## Abstract

The purpose of this study was to measure the performance of mobile banking by offering an integration from the diffusion of innovation and service convenience models among college students in Indonesia. This study uses a cross-sectional design with a survey study as a data acquisition strategy and the quantitative research type. The questionnaire was completed by 202 respondents from the University of North Sumatra, Telkom Mercubuana, Multimedia Nusantara, Bengkulu, Brawijaya, Katolik Widya Mandala Surabaya, Negeri Jakarta, Tarumanagara, Trisakti, and Pembangunan Nasional Veteran, due to their active use of mobile banking. Data analysis used the partial least squares structural equation modeling approach, where the service convenience model was analyzed in the second order and the diffusion of innovation model was analyzed in the first order. The results prove that decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience are the determining dimensions of service convenience and have a significant positive effect on mobile banking performance. In addition, compatibility also has a significant positive effect on mobile banking performance. However, relative advantage and complexity do not affect mobile banking performance.

## Keywords

service convenience, relative advantage, compatibility, complexity, mobile banking performance

## JEL Classification

G21, O33, L21

## INTRODUCTION

Mobile banking has become an important tool in the modern banking and competitive world, but poor performance can hinder user experience and reduce usage rates. The growth of mobile banking in Indonesia was significantly slow from 2015–2021. Transaction volume only increased to 106% (Ahdiat, 2022). The percentage is meager compared to Thailand and Malaysia. Both are growing rapidly. Findings prove that the use of mobile banking has declined dramatically in 2022 (Dihni, 2022). During June 2024, the Financial Services Authority received 6,289 complaints about financial technology (Muhamad, 2024). The complaints occurred due to external fraud and transaction failures (Muhamad, 2024). These problems indicate the weak performance of mobile banking. Despite the decline in mobile banking performance and usage, college students have the potential to consistently use the app (Jahan & Shahria, 2022). Students are more accepting of technology and have easy access to smartphones or the internet (Joia & Altieri, 2018). Accordingly, enhancing mobile banking performance among college students is essential to resolve the downfall of mobile banking users (Sembring et al., 2024).

Factors such as service convenience, complexity, relative advantage, and compatibility play an important role in overcoming poor mobile banking performance. The basis of this study is the underlying assumption that service convenience in access and transactions makes

it easier for customers to use mobile banking when anywhere and anytime thus mobile banking performance meets customer expectations. Mobile banking that is easy to understand will minimize user frustration, and the advantages of this application are better than traditional banking so that users are more willing to use mobile banking (Khan & Alhumnoudi, 2022). By paying attention to these factors, banks can more effectively address poor performance and improve the overall user experience. Therefore, it is important to understand user perceptions of convenience, relative advantage, complexity, and compatibility to enforce better performance.

## 1. LITERATURE REVIEW

This study uses the integration of innovation diffusion and service convenience theories, where the integration is still limited. The diffusion of innovation theory is a theoretical model related to the acceleration of the implementation of a technological innovation, which then leads to the good performance of the technology. Rogers (2003) pointed out that the diffusion of innovation is frequently used in late-stage technology implementation (Taghizadeh et al., 2022). The factors from the diffusion of innovation are focused on accelerating and extending the process of implementing technological innovation (Joia & Altieri, 2018; Moore & Benbasat, 1991). The most influential factors are relative advantage, compatibility, and complexity (Chen et al., 2004).

Relative advantage is an individual's perception that the innovation used is superior to the previous innovation (Rogers, 2003; Kyari & Hudithi, 2022; Lou et al., 2017). Relative advantage is the extent to which a product innovation is perceived to have greater benefits than its substitute (Sultana et al., 2021; Yuen et al., 2021). Research by Mahakittikun et al. (2020), Riquelme and Rios (2010), and Xia et al. (2023) found that the relative advantage of payment technologies such as mobile banking has a significant effect on improving performance compared to companies that do not fully adopt these technologies. This relative advantage results in good revenue, customer satisfaction, and operational efficiency. This finding is supported by Khan et al. (2021) who highlighted relative advantage as one of the factors that fulfill technology performance in libraries. Relative advantage can strengthen its user experience and improve internal efficiency, all of which contribute to superior performance. Hanfield et al. (2022) and Hashem and Aboelmaged (2023) proved that the use of technology that has a relative advantage

helps to achieve a significant competitive advantage and adapt to dynamic market changes, resulting in improved long-term performance.

Compatibility is an individual's assumption that the innovation is appropriate and consistent with past values, past experiences, and current needs (Rogers, 2003). Shahid (2022) presented compatibility as the ability of innovation to honor the needs and requirements of accelerated implementation. Compatibility is the ability of mobile banking features to meet the daily needs of users (Lin, 2013). The study by Murthy et al. (2020) revealed that system incompatibility can hinder performance because it creates additional costs. Compatibility plays a big role because companies do not need to invest significant resources to harmonize incompatible systems. These findings align with Al-Dmour et al. (2023), where application compatibility is the key factor that has the most influence on improving bank performance. High compatibility results in real-time data collection and analysis resulting in improved customer service, more personalized product offerings, and better risk detection (Winarti et al., 2021). The compatibility of technology is closely linked to performance. A study by Luthfi et al. (2022) found that compatibility is one of the factors that have the most significant effect on technology performance in accounting activities. Compatibility leads to how well the technology matches the needs, processes, and systems available. When the technology used is compatible, transaction-related systems will function more efficiently resulting in consistently better operational performance (Acikgoz et al., 2023; Lutfi & Alqudah, 2023).

Complexity is defined as an individual's belief that the innovation used is considered complicated to understand and apply (Rogers, 2003). The opportunity for technology implementation is higher when the constructs are simple (Maroufkhani et

al., 2023). Complexity is defined as how complicated the innovation is for users to evaluate, understand, and use (Rahardja et al., 2023; Zoubi et al., 2023). Lee (2020) proved that complexity not only affects the strength of technology performance but also the performance of a person's activities. The study found that the more complex the tasks given to English language learners in Korea, the better the participants' ability to develop richer vocabulary and language structures in writing. Complexity also greatly affects the performance of a company or organization (Alsetoohy et al., 2019). This finding is supported by Liu et al. (2015) who revealed that high complexity will reduce performance. The results of this study indicate that the key to maximizing a company's technology performance is to adjust its external challenges.

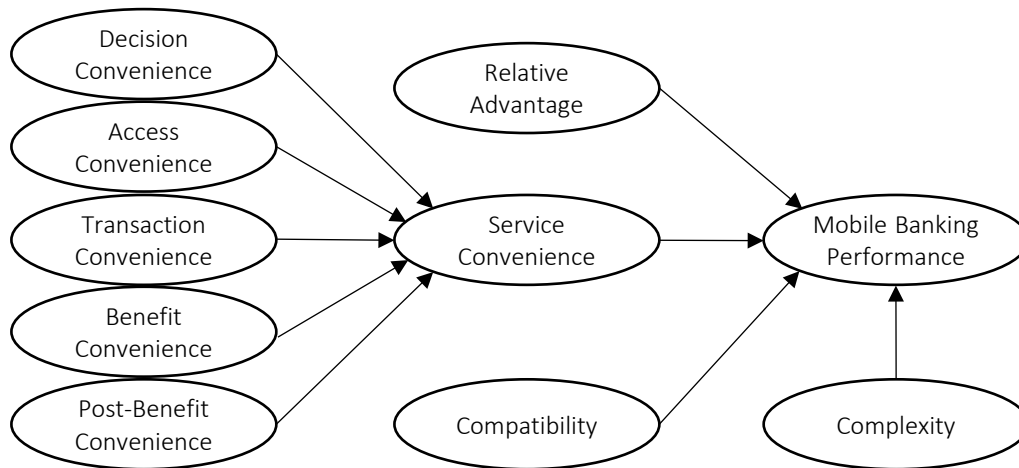
Technology that only undergoes accelerated implementation is not sufficient to evaluate performance (Khan & Alhumnoudi, 2022; Roy et al., 2016). Previous research has tried to integrate innovation diffusion with other theoretical models to increase the predictive power of a construct (Grantham & Tsekouras, 2005; Moore & Benbasat, 1991; Hsu et al., 2008). Seiders et al. (2007) suggested that the service convenience dimension is the most important factor in the post-adoption evaluation of technology. Service convenience is a theoretical model that reveals how a technology service can provide convenience so that it shows better technology performance. The dimensions of service convenience are decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience.

Decision convenience is understanding an individual's perception of the time and effort spent deciding something (Berry et al., 2002; Seiders et al., 2007). This concept encourages convenient and efficient decision-making (Jiang et al., 2013). Han and Lee (2011) identified that decision convenience is a dimension of convenience and affects company performance. The findings prove that a high level of decision convenience in technology results in better performance among B2B companies. Decision convenience reduces the burden and time involved in deciding whether or not to adopt technology. Thereby increasing trust and better collaboration among the companies involved. The finding is in line with Kaura (2013), where the de-

cision convenience factor in mobile banking technology plays a role in driving bank performance. Chang et al. (2010) prove that decision convenience affects performance through the lack of time and effort felt by customers in choosing the technology used. The ease of decision perceived by customers is key in building performance.

Access convenience is an Individual's perception of the time and effort spent accessing a service (Berry et al., 2002; Seiders et al., 2007). Access convenience is the ease with which individuals consider using the service (Colwell et al., 2008). Individuals need direct interaction with technology or service providers to access after making a decision (Seiders et al., 2007). The findings of Jiang et al. (2013) show that access convenience is part of the ease of financial technology in online shopping applications, which affects satisfaction and indicates the level of technology performance. This performance is often associated with the level of comfort and satisfaction when accessing. This finding is in line with the results of research by Khazaei et al. (2014), where customers who easily access mobile banking technology tend to have a positive behavioral response to banks. Benoit et al. (2017) prove that the convenience of access to technology in the retail sector includes product information, stock, and digital positioning of goods. This convenience forms the overall convenience of the service thus encouraging performance.

Transaction convenience is an individual's view of the time and effort spent conducting a service transaction (Berry et al., 2002; Seiders et al., 2007). Transaction convenience is gained when mobile banking users have selected the service, used the service, and completed the transaction (Chang & Polonsky, 2012). Complicated and time-consuming processes lead to a decrease in convenience and users not completing transactions (Shankar & Rishi, 2020). Research conducted by Kaura et al. (2014), Chang et al. (2010), and Colwell et al. (2008) found that the ease with which customers can complete payment transactions, transfers, and other activities through mobile banking can indicate good bank performance. If transactions are done quickly, easily, and efficiently, then it reinforces the positive experience and fulfills customer expectations of mobile banking performance. This finding is in line with Shankar and Rishi (2020) that mobile banking



**Figure 1.** Research model for examining the mobile banking performance among college students in Indonesia

customers complete transactions quickly and safely, tending to use the service consistently due to perceived convenience. Apart from banking technology, the ease of transactions can also be felt in food home delivery technology in Pakistan (Mehmood & Najmi, 2017). The study found that the payment process can be done immediately when the ordering process is in progress. The smoothness of the payment process forms the overall convenience of the transaction and shows good performance.

According to service convenience theory, benefit convenience is defined as an individual's perception of the time and effort needed to obtain the benefits of using a service (Berry et al., 2002; Seiders et al., 2007). Benefit convenience indicates the time and effort required to derive benefits from the core service (Jebarajakirthy & Shankar, 2021). Lai et al. (2014) found that benefit convenience is a dimension of service convenience that has a significant influence on e-commerce technology performance. Benefit convenience includes how easily and quickly customers make payments and receive purchased products. This finding is in line with Salehi et al. (2012), where the technology provides convenience benefits such as accurate product information and supports efficient delivery processes due to digitalization. Based on benefits, this technology shows good performance. Furthermore, Roy et al. (2018) also proved that if customers can easily and quickly receive the benefits of the service, it creates a more positive perception of service performance.

Post-benefit convenience is an individual's sense of the time and effort spent after perceived benefits (Berry et al., 2002; Seiders et al., 2007). This is attributed to individuals who constantly need effective and quick solutions to address problems after using the service (Duarte et al., 2018; Jiang et al., 2013). Research by Kashif et al. (2023) found that post-benefit convenience (ease of product returns, after-sales service, and post-purchase support) can improve performance more than just speed or timeliness of home delivery technology in Karachi. Technology performance improvement can focus on the customer experience after all the usage processes are completed, not just during delivery (Shahijan et al., 2018). The results of this study are in line with Vyas and Band (2021), it is proven that good performance is shown by a better and more sustainable relationship with customers through post-benefit convenience. Meanwhile, Jebarajakirthy and Shankar (2021) found that post-benefit convenience plays an important role in improving the performance of mobile banking technology through responsive customer support.

Based on the review that has been described, it is concluded that the dimensions of service convenience (decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience), relative advantage, compatibility, and complexity greatly encourage performance improvement on various technologies. Not only on mobile

banking technology but also other technologies that support the competence of companies and individuals.

Therefore, the purpose of this study is to measure the effect of decision convenience, access convenience, transaction convenience, benefit convenience, post-benefit convenience, relative advantage, compatibility, and complexity on mobile banking performance. Thus, banks can overcome indications of declining mobile banking performance and increase competitiveness in the era of digital transformation. Furthermore, the hypotheses are formulated as follows (see Figure 1):

- H1: Relative Advantage positively affects mobile banking performance.*
- H2: Compatibility positively affects mobile banking performance.*
- H3: Complexity negatively affects mobile banking performance.*
- H4: Service convenience positively affects mobile banking performance.*

## 2. METHODOLOGY AND DATA

This study used a cross-sectional design with a survey study. The research data were taken by distributing questionnaires because the type of data used was primary. This type of research is quantitative to measure the effect of the dimensions of service convenience, relative advantage, compatibility, and complexity on mobile banking performance. The questionnaire was distributed to college students in Indonesia via social media with the accidental sampling technique. It is not known how many college students in Indonesia use mobile banking so this study uses accidental sampling.

The collected data were analyzed using the PLS-SEM approach. The analysis was conducted in two stages. The first stage is the outer model performed on the PLS algorithm. This stage is carried out to see the validity and reliability of each measurement item. Meanwhile, the second stage is the inner model conducted on bootstrapping. This stage

is carried out to test the proposed hypothesis. The conceptual framework in this study is considered based on previous researchers, where the service convenience model was analyzed in the second order (Chang et al., 2010; Benoit et al., 2017; Shahijan et al., 2018) and the diffusion innovation model was analyzed in the first order (Cooper & Zmud, 1990). The research indicators were adapted by Al-Jabri and Sohail (2012), Doll et al. (2004), and Seiders et al. (2007). In terms of performance measurement, this study used indicators and constructs by Doll et al. (2004). This measure is used to explain performance or success in most studies (Hsu et al., 2008).

Based on 300 questionnaires distributed, 202 returned answers from respondents. The respondents were students of universities in Indonesia, such as the University of North Sumatra, Telkom Mercubuana University, Multimedia Nusantara University, Bengkulu University, Brawijaya University, Katolik Widya Mandala Surabaya University, Jakarta State University, Tarumanagara University, Trisakti University, and Veteran National Development University.

Table 1 summarizes the results of the respondents' demographics. Based on the data collected, it was concluded that the majority of respondents were female, with a proportion of 75.2% of the total respondents, while males were only 24.8%. This shows that women tend to utilize mobile banking services compared to men. Convenience in using technology, or transaction needs could be the reason why more women use mobile banking. In terms of age, the majority of respondents are between 20 to 21 years old, accounting for 54.0% of the total respondents. This is followed by the age group above 22 years old at 34.2%, and the youngest age group (18-19 years old) at only 11.9%. The data illustrate that mobile banking usage is more dominant among students who are at the end of their studies, possibly with more complex financial transaction needs as financial independence increases. Most of the respondents are from North Sumatra, with the percentage reaching 60.4%. Jakarta is the second largest domicile with 19.3% of respondents, followed by East Java with 6.9%. The dominance of these respondents is due to the ease of reaching students in the North Sumatra region. Finally, BCA Mobile is the most popular among students, used by 30.7% of respondents. This was followed by BNI

Mobile (26.7%) and BRI<sub>mo</sub> (20.8%). The popularity of these apps from major banks shows that students tend to favor mobile banking services that are well-established and offer features that suit their needs. On the other hand, other apps such as BSI Mobile, Jenius, and Wap banking have far fewer users, which may reflect a preference for larger, more widely recognized banks.

**Table 1.** Respondent demographics of mobile banking users

Description		Total	Percentage
Gender	Male	50	24.8%
	Female	152	75.2%
Age	> 22 years	69	34.2%
	18-19 years	24	11.9%
	20-21 years	109	54.0%
Domicile	Bali	1	0.5%
	Banten	1	0.5%
	Bengkulu	4	2.0%
	Jakarta	39	19.3%
	West Java	8	4.0%
	Central Java	4	2.0%
	East Java	14	6.9%
	West Kalimantan	1	0.5%
	Lampung	1	0.5%
	Riau	1	0.5%
	South Sulawesi	2	1.0%
	West Sumatra	1	0.5%
	North Sumatra	122	60.4%
	Yogyakarta	3	1.5%
Types of mobile banking	AGI Mobile	1	0.5%
	BCA	62	30.7%
	BNI	54	26.7%
	BRI <sub>mo</sub>	42	20.8%
	BSI Mobile	3	1.5%
	Jenius BTPN	1	0.5%
	Livein	37	18.3%
	Sumut Mobile	1	0.5%
Wap banking	1	0.5%	

### 3. RESULTS

The analysis findings show that each questionnaire statement item has an average factor loading that is much greater than 0.60, indicating each item is valid (Table 2) (Hair et al., 2022). In addition to factor loading, data validity is also seen from the average variance extracted which has a value of more than 0.50 (Hair et al., 2022). Then reliability can be seen from the composite reliability value, which is greater than 0.70, and the Cronbach's alpha value above 0.60 (Hair et al., 2022; Sekaran & Bougie, 2016).

Based on data processing on the PLS algorithm, it is evident that each performance statement item has a factor loading of 0.72 to 0.85, Average Variance Extracted is 0.66, Composite Reliability is 0.95, and Cronbach's Alpha is 0.94. These results indicate that performance has high validity and reliability despite its low Average Variance Extracted.

Relative advantage has a validity value that is quite higher than the minimum limit specified, which is around 0.75 to 0.84 on factor loading and 0.63 on Average Variance Extracted. The same applies to reliability, which shows Composite Reliability and Cronbach's Alpha close to 0.9. Compatibility shows a small factor loading value, which is around 0.60 to 0.85. Cronbach's Alpha is also only worth 0.59, and the validity of compatibility is small. However, compatibility shows strong reliability, where Composite Reliability is 0.87 and Cronbach's Alpha is 0.82.

Each complexity statement item has very high validity, where the factor loading is 0.78 to 0.95 and the Average Variance Extracted is close to 0.8. Complexity is very reliable because Composite Reliability reaches a value of 0.91 and Cronbach's Alpha is 0.88. Decision convenience has medium validity and reliability. Factor loading is 0.82 to 0.86. The same applies to Cronbach's Alpha, which is 0.80, and Composite Reliability is 0.88. Almost all values are in the 0.8 range except the Average Variance Extracted value, which is 0.71.

Besides decision convenience, access convenience also has almost the same validity and reliability values. The factor loading for access convenience is 0.83 to 0.86, but the Average Variance Extracted is 0.72. As for reliability, Composite Reliability and Cronbach's Alpha have quite high values, namely 0.88 and 0.81. Each statement item on transaction convenience has a fairly small validity. There is a factor loading of 0.71 to 0.86 and an Average Variance Extracted of only 0.66. Meanwhile, reliability is quite high on Composite Reliability which is worth 0.85 but Cronbach's Alpha is worth 0.74.

Benefit convenience has a medium factor loading value, which is 0.81 to 0.86. While the Average Variance Extracted is worth 0.70, which means that the measurement items are quite valid. Similar to reliability, Composite Reliability and

Cronbach’s Alpha values show medium values, around 0.87 and 0.79. Validity and reliability on post-benefit convenience are very high. Factor loadings have very high values, around 0.86 to 0.90. However, the Average Variance Extracted is only 0.78. Post-benefit convenience is very reliable,

where the Composite Reliability value reaches 0.91 and Cronbach’s Alpha is 0.86.

Furthermore, discriminant validity has a square root of the Average Variance Extracted value, and cross-loading is greater than all correlations

**Table 2.** Reliability and convergent validity for variables affecting mobile banking performance

Variables	Indicators	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Performance	Accuracy of information	0.7672	0.9428	0.9513	0.6618
	Appropriateness of feature information	0.8226			
	Suitability of transaction evidence	0.8494			
	Effectiveness of information	0.8572			
	Transaction accuracy	0.8575			
	Satisfaction with accuracy	0.8388			
	Timeliness	0.7204			
	Up-to-date information	0.8240			
	User-friendly interface	0.7805			
	Overall satisfaction	0.8066			
Relative Advantage	Ease of financial management	0.7868	0.8578	0.8978	0.6377
	Efficiency of mobile banking	0.7826			
	Effectiveness of mobile banking	0.8488			
	Financial control	0.7576			
	Financial resource management	0.8141			
Compatibility	Suitability of financial management	0.6003	0.8295	0.8799	0.5977
	Suitability of new technology	0.8314			
	Appropriateness of innovations	0.8512			
	Lifestyle suitability	0.8138			
Complexity	Work style suitability	0.7418	0.8820	0.9189	0.7918
	Transaction processing difficulties	0.7828			
	System complexity	0.9260			
Decision Convenience	Overall complexity	0.9514	0.8025	0.8831	0.7158
	Suitability of mobile banking selection with needs	0.8220			
	Ease and speed of determining mobile banking services and features	0.8652			
Access Convenience	Speed of finding mobile banking service information	0.8504	0.8140	0.8897	0.7289
	Availability of mobile banking access	0.8393			
	Convenience of mobile banking access anywhere	0.8664			
Transaction Convenience	The convenience of mobile banking access at any time	0.8554	0.7433	0.8531	0.6611
	Ease of mobile banking in transaction settlement	0.8561			
	Speed of mobile banking in settling various payments	0.8617			
Benefit Convenience	Ease of the entire transaction process	0.7126	0.7934	0.879	0.7078
	Outreach speed of mobile banking features	0.8623			
	Ease of finding mobile banking features	0.8122			
Post Benefit Convenience	Ease of the entire mobile banking implementation process	0.8486	0.8649	0.9173	0.7872
	Ease of claiming failed mobile banking transactions	0.8670			
	Mobile banking customer service response speed	0.8847			
Service Convenience	Speed of resolution of mobile banking transaction failures	0.9095	0.9211	0.9338	0.5852

**Table 3.** Result of Fornell-Larcker for variables affecting mobile banking performance

Variables	Compatibility	Complexity	Performance	Service Convenience	Relative Advantage
Compatibility	0.7731	–	–	–	–
Complexity	0.0609	0.8898	–	–	–
Performance	0.6225	0.1269	0.8135	–	–
Service Convenience	0.6380	0.2296	0.6169	0.765	–
Relative Advantage	0.6233	–0.0182	0.4201	0.4153	0.7986

among other variables (Table 3). Based on the criteria of Fornell-Larcker, compatibility is 0.7731, complexity is 0.8898, performance is 0.8135, service convenience is 0.765, and relative advantage is 0.7986. Thus, the discriminant validity is properly validated and meets the criteria (Sekaran & Bougie, 2016).

The inner model analysis includes the test and hypothesis testing with bootstrapping pls. The coefficient of determination, which has a value of around 0.67, means strong, 0.33 means moderate, and 0.19 means weak (Vincenzo, 2010). Table 4 shows that the adjusted r-square value on the performance variable is 0.4598 (45.9%). Therefore, this research model effectively explains 45.9% of the performance variable. This value is categorized as moderate (Vincenzo, 2010).

**Table 4.** Coefficient of determination for variables affecting mobile banking performance

Variable	R Square	Adjusted R Square
Performance	0.4705	0.4598

After calculating the coefficient of determination, the hypothesis testing is completed with the path coefficient. Suppose the t-statistic value is larger than 1.64, and the p-value at 5% significance is less than 0.05. In that case, the result implies that a variable has an effect, and the

hypothesis is accepted. The opposite is equally true (Band, 2006).

The summary of Table 5 highlights the t statistic of relative advantage is  $0.7867 < 1.64$ , the p-value is  $0.4319 > 0.05$ , and the standard deviation is 0.0561. T statistic of compatibility is  $2.0178 > 1.64$ , the p-value is  $0.0388 < 0.05$ , and the standard deviation is 0.1751. T statistic of complexity is  $0.3539 < 1.64$ , the p-value is  $0.7235 > 0.05$ , and the standard deviation is 0.0636. T statistic of service convenience is  $2.1482 > 1.64$ , the p value is  $0.0322 < 0.05$ , and the standard deviation is 1685. These results indicate that compatibility and service convenience are more critical factors in improving performance than relative advantage or level of complexity.

Therefore, it is concluded that the compatibility variable and the service convenience dimension affect mobile banking performance. In contrast, the relative advantage and complexity variables do not affect mobile banking performance. Decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience have exceptionally good t-statistics and p-values. Thus, the dimensions of service convenience can strongly form a service convenience construct. The service convenience model is integrable with the diffusion of innovation variable, namely compatibility. Based on the results of hypothesis testing, *H2* and *H4* are accepted while *H1* and *H3* are rejected (Table 6).

**Table 5.** Result of bootstrapping from SmartPLS

Relationship	Standard Deviation	T Statistic	P Values
Access Convenience → Service Convenience	0.0211	15.9058	0.0000
Benefit Convenience → Service Convenience	0.0177	20.5216	0.0000
Compatibility → Performance	0.1751	2.0718	0.0388
Complexity → Performance	0.0636	0.3539	0.7235
Decision Convenience → Service Convenience	0.0196	10.7415	0.0000
Pos-Benefit Convenience → Service Convenience	0.0079	2.2949	0.0222
Service Convenience → Performance	0.1685	2.1482	0.0322
Transaction Convenience → Service Convenience	0.0166	13.2792	0.0000
Relative Advantage → Performance	0.0561	0.7867	0.4319

**Table 6.** Hypothesis results to test each variable on mobile banking performance

Hypothesis	Relationship	T Statistic	P Values	Result
H1	Relative Advantage → Performance	0.7867	0.4319	NS
H2	Compatibility → Performance	2.0718	0.0388	S
H3	Complexity → Performance	0.3539	0.7235	NS
H4	Service Convenience → Performance	2.1482	0.0322	S

## 4. DISCUSSION

The results showed that relative advantage does not affect mobile banking performance. The relative advantages offered by mobile banking, such as time efficiency and convenience, are perceived as basic needs rather than additional benefits by students who are already familiar with digital technology. The world of technology is no longer foreign to students. Therefore, students see no significant difference between one mobile banking platform and another. The relative advantage of mobile banking is not very prominent; therefore, the relative advantage does not result in improved performance. The results of this study confirm the research results of Taghizadeh et al. (2021) which found that relative advantage does not affect online learning performance in Oman. Lutfi et al. (2022) also found that relative advantage does not affect the performance of digital accounting systems in SMEs in Jordan. The traditional system is favored by the majority so that the relative advantage is not felt. Hlee et al. (2016) confirm this result, where the relative advantage in visual analytics applications has no direct effect on student performance.

The findings of this study indicate that compatibility has a significant influence on mobile banking performance. The majority of respondents strongly agreed that mobile banking is compatible with financial management and work style. In addition, a large number of respondents strongly agreed that mobile banking is compatible with new technologies, innovations, and lifestyles. Mobile banking services that are highly compatible with respondents' needs and lifestyles have a greater chance of generating good performance. The results of the study confirm Hashem and Aboelmaged (2023) who found compatibility greatly affects the performance of manufacturing companies in Egypt. Then these results are supported by Winarti et al. (2021) and Zhang and Chan (2021), where mobile banking that suits the needs can drive performance improvement through user satisfaction and loyalty.

The research findings indicate that complexity does not affect mobile banking performance. Based on the alignment of mobile banking services with the daily needs of students, the application continues to be used regardless of complexity, implying that system complexity does not explain poor mobile banking performance. Furthermore, the purpose of mobile banking is to offer greater ease and convenience for users. These results confirm the findings of Joia and Altieri (2018), who revealed that the complexity of E-Hailing Apps does not impact the performance of those applications. The findings are also consistent with those of Mahakittikun et al. (2020) and Taghizadeh et al. (2022), which suggest that mobile banking is essential for fulfilling students' lifestyle needs (such as online shopping) and daily necessities. The study also corroborates the findings of Ahmad et al. (2016), which show that complexity does not influence the performance of business intelligence deployment.

The results showed that all dimensions of service convenience have a significant influence on mobile banking performance such as decision convenience. Each mobile banking or mobile payment application has its unique advantages that cater to the needs and lifestyles of students. Based on these advantages, students can comfortably select the services and applications they wish to use, thereby encouraging even better performance. These results align with the study by Mehmood and Najmi (2018), which found that decision convenience affects the performance of home delivery services in Pakistan. The shift from direct ordering to online ordering has occurred, allowing customers to make decisions more comfortably, as they recognize the superiority of online ordering compared to previous methods. The research findings confirm the results of Benoit et al. (2017), who stated that decision convenience significantly improves company performance in the UK, and Khazaei et al. (2014), who demonstrated that this convenience enhances bank performance due to increased customer satisfaction in Iran.

The results showed that all dimensions of service convenience have a significant influence on mobile banking performance such as access convenience. This result is consistent with the study by Kaura (2013), where students can have financial limitations that lead to mobile banking becoming the affordable alternative since it does not require significant additional costs when access. Therefore, convenient access will maintain mobile banking performance. These findings confirm the results of Khazaei et al. (2014), which state that access convenience in all services has the potential to consistently enhance bank performance. The result was also supported by Benoit et al. (2017) who demonstrated that access convenience has the most significant impact in improving performance.

The results showed that all dimensions of service convenience have a significant influence on mobile banking performance such as transaction convenience. Students, particularly those with irregular schedules, often prioritize convenience and speed in their transactions. Therefore, transactions that can be conducted in remote areas and outside of operational hours will foster this convenience, thereby reflecting strong mobile banking performance. These findings confirm the results of Kaura (2015) and Colwell et al. (2008), which state that the speed and security of electronic payment transactions enhance customer convenience, thereby strengthening the performance of the application. Jebarajakirthy and Shankar (2021) support these findings, stating that transaction convenience has a strong influence on satisfaction, which ultimately leads to improved mobile banking performance.

The results showed that all dimensions of service convenience have a significant influence on mobile banking performance such as benefit convenience. These findings confirm the results of Salehi et al. (2012) and Roy et al. (2018), which sug-

gest that when a product is beneficial and provides convenience from its utility, it will significantly impact the company's performance. Mehmood and Najmi (2018) also found that the benefit convenience enhances the performance of online ordering applications through consistent customer satisfaction.

The results showed that all dimensions of service convenience have a significant influence on mobile banking performance such as post-benefit convenience. Students prefer everything to be done quickly and instantly (Sembiring et al., 2024). Therefore, responsive assistance provided during obstacles or transaction failures will create convenience and demonstrate the strong performance of the mobile banking application. These findings confirm the study by Jebarajakirthy and Shankar (2021), which states that post-benefit convenience from experiences will be strongly encouraged if the failure is resolved quickly and selectively. These results are in line with research conducted by Vyas and Band (2021) and Chang et al. (2010) who stated that post-benefit convenience has an influence and is significant.

This study has limitations regarding the data collection process, such as the possibility of respondents completing the questionnaire dishonestly or insincerely, as interviews were not conducted. The study only integrates the theory of innovation diffusion and service convenience to measure performance. Based on these limitations, future research could conduct brief interviews to ensure honesty in questionnaire responses. Future studies are also expected to expand the integration model with other theories and specific measurements, such as electronic service quality, for mobile banking performance. Additionally, future research could incorporate age or education level as mediating factors in the development of this integration model.

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## CONCLUSION

This study investigates the impact of various dimensions of service convenience on mobile banking performance, focusing on decision convenience, access convenience, transaction convenience, benefit convenience, and post-benefit convenience. The findings reveal that all these dimensions of service convenience significantly and positively influence mobile banking performance. Moreover, compatibility is shown to have a notable impact on performance, whereas relative advantage and complexity do not

exhibit significant effects. The critical role of convenience in determining mobile banking performance underscores the need for continuous improvements in both system functionality and transaction-related services. Enhancing these aspects can help mobile banking platforms better meet the evolving needs and preferences of users. Furthermore, by aligning services more closely with modern lifestyles and technological trends, mobile banking can maintain its competitive edge in the fast-paced, digitally driven financial sector. Consequently, regular updates and innovations in mobile banking services are essential for sustained performance improvement and long-term success in the industry.

## AUTHOR CONTRIBUTIONS

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## REFERENCES

- Acikgoz, F., Elwalda, A., & De Oliveira, M. J. (2023). Curiosity on Cutting-Edge Technology via the Theory of Planned Behavior and Diffusion of Innovation Theory. *International Journal of Information Management Data Insights*, 3(1), 100152. <https://doi.org/10.1016/j.jjimei.2022.100152>
- Ahdiat, A. (2022). *Internet Banking and Mobile Banking Transaction Volume per 1,000 population in ASEAN Countries (2015–2021)*. Retrieved from <https://databoks.katadata.co.id/datapublish/2022/11/15/pertumbuhan-transaksi-internet-banking-ri-belum-sekuat-negara-tetangga>
- Ahmad, A., Ahmad, R., & Hashim, K. F. (2016). Innovation traits for business intelligence successful deployment. *Journal of Theoretical and Applied Information Technology*, 89(1), 96. Retrieved from <https://www.jatit.org/volumes/Vol89No1/11Vol89No1.pdf>
- Al-Dmour, H., Saad, N., Basheer Amin, E., Al-Dmour, R., & Al-Dmour, A. (2023). The influence of the practices of big data analytics applications on bank performance: filed study. *VINE Journal of Information and Knowledge Management Systems*, 53(1), 119-141. <https://doi.org/10.1108/VJIKMS-08-2020-0151>
- Al-Jabri, I., & Sohail, M. S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), 379-391. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2523623](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2523623)
- Alsetoohy, O., Ayoun, B., Arous, S., Megahed, F., & Nabil, G. (2019). Intelligent agent technology: what affects its adoption in hotel food supply chain management? *Journal of Hospitality and Tourism Technology*, 10(3), 286-310. <https://doi.org/10.1108/JHTT-01-2018-0005>
- Band, J. A. (2006). *Consumer adoption of the online desktop*. University of Pretoria, Afrika Selatan. Retrieved from <http://hdl.handle.net/2263/23612>
- Benoit, S., Klose, S., & Ettinger, A. (2017). Linking service convenience to satisfaction: Dimensions and key moderators. *Journal of Services Marketing*, 31(6), 527-538. <https://doi.org/10.1108/JSM-10-2016-0353>
- Berry, L. L., Seiders, K., & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing*, 66(3), 1-17. <https://doi.org/10.1509/jmkg.66.3.1.18505>
- Chang, K. C., Chen, M. C., Hsu, C. L., & Kuo, N. T. (2010). The effect of service convenience on post-purchasing behaviours. *Industrial Management & Data Systems*, 110(9), 1420-1443. <https://doi.org/10.1108/02635571011087464>
- Chang, Y. W., & Polonsky, M. J. (2012). The influence of multiple types of service convenience on behavioral intentions: The

- mediating role of consumer satisfaction in a Taiwanese leisure setting. *International Journal of Hospitality Management*, 31(1), 107-118. <https://doi.org/10.1016/j.ijhm.2011.05.003>
12. Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2004). Consumer acceptance of virtual stores: a theoretical model and critical success factors for virtual stores. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 35(2), 8-31. <https://doi.org/10.1145/1007965.1007968>
  13. Colwell, S. R., Aung, M., Kanetkar, V., & Holden, A. L. (2008). Toward a measure of service convenience: multiple-item scale development and empirical test. *Journal of Services Marketing*, 22(2), 160-169. <https://doi.org/10.1108/08876040810862895>
  14. Cooper, R. B., & Zmud, R. W. (1990). Information technology implementation research: a technological diffusion approach. *Management Science*, 36(2), 123-139. <https://doi.org/10.1287/mnsc.36.2.123>
  15. Dihni, V. A., (2022). *Survei Indikator Ungkap Mayoritas Publik Belum Pernah Mengakses Digital Banking [Indicator Survey Reveals Majority of Public Have Never Accessed Digital Banking]*. (In Indonesian). Retrieved from <https://databoks.katadata.co.id/index.php/-/statistik/e774b177f3a377d/survei-indikator-ungkap-mayoritas-publik-belum-pernah-mengakses-digital-banking>
  16. Doll, W. J., Deng, X., Raghunathan, T. S., Torkzadeh, G., & Xia, W. (2004). The meaning and measurement of user satisfaction: A multigroup invariance analysis of the end-user computing satisfaction instrument. *Journal of Management Information Systems*, 21(1), 227-262. <https://doi.org/10.1080/07421222.2004.11045789>
  17. Duarte, P., Silva, S. C., & Ferreira, M. B. (2018). How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM. *Journal of Retailing and Consumer Services*, 44, 161-169. <https://doi.org/10.1016/j.jretconser.2018.06.007>
  18. Grantham, A., & Tsekouras, G. (2005). Diffusing wireless applications in a mobile world. *Technology in Society*, 27(1), 85-104. <https://doi.org/10.1016/j.techsoc.2004.10.003>
  19. Hair, J., Hult, G. T. M., & Ringle, C., & Sarstedt, M. (2022). *Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Classroom Companion: Business. <https://doi.org/10.1007/978-3-030-80519-7>
  20. Han, S. L., & Lee, S. H. (2011). Effect of Service Convenience on the Relationship Performance in B2B Markets: Mediating Effect of Relationship Factors. *Journal of Distribution Research*, 16(4), 65-93. Retrieved from <https://typeset.io/papers/effect-of-service-convenience-on-the-relationship-3uphdujad0>
  21. Hashem, G., & Aboelmaged, M. (2023). Leagile manufacturing system adoption in an emerging economy: an examination of technological, organizational and environmental drivers. *Benchmarking: An International Journal*, 30(10), 4569-4600. <https://doi.org/10.1108/BIJ-03-2022-0199>
  22. Hlee, S., Lee, J., Moon, D., & Yoo, C. (2017). The acceptance of 'intelligent trade shows': Visitors' evaluations of IS innovation. *Information Systems Frontiers*, 19, 717-729. <https://doi.org/10.1007/s10796-016-9703-5>
  23. Hsu, L. L., Lai, R. S., & Weng, Y. T. (2008). Understanding the critical factors effect user satisfaction and impact of ERP through innovation of diffusion theory. *International Journal of Technology Management*, 43(1-3), 30-47. <https://doi.org/10.1504/IJTM.2008.019405>
  24. Jahan, N., & Shahria, G. (2022). Factors effecting customer satisfaction of mobile banking in Bangladesh: a study on young users' perspective. *South Asian Journal of Marketing*, 3(1), 60-76. <https://doi.org/10.1108/SAJM-02-2021-0018>
  25. Jebarajakirthy, C., & Shankar, A. (2021). Impact of online convenience on mobile banking adoption intention: A moderated mediation approach. *Journal of Retailing and Consumer Services*, 58, 102323. <https://doi.org/10.1016/j.jretconser.2020.102323>
  26. Jiang, L. A., Yang, Z., & Jun, M. (2013). Measuring consumer perceptions of online shopping convenience. *Journal of Service Management*, 24(2), 191-214. <https://doi.org/10.1108/09564231311323962>
  27. Joia, L. A., & Altieri, D. (2018). Antecedents of continued use intention of e-hailing apps from the passengers' perspective. *The Journal of High Technology Management Research*, 29(2), 204-215. <https://doi.org/10.1016/j.hitech.2018.09.006>
  28. Kashif, Z., Waqas, M., & Azhar, T. (2023). Understanding the Impact of Service Convenience on Customer Satisfaction in Home Delivery: Evidence from Karachi. *Academic Journal of Social Sciences (AJSS)*, 7(1), 151-169. <https://doi.org/10.54692/ajss.2023.711925>
  29. Kaura, V. (2013). Service convenience, customer satisfaction, and customer loyalty: Study of Indian commercial banks. *Journal of Global Marketing*, 26(1), 18-27. <https://doi.org/10.1080/08911762.2013.779405>
  30. Kaura, V., Durga Prasad, C. S., & Sharma, S. (2015). Service quality, service convenience, price and fairness, customer loyalty, and the mediating role of customer satisfaction. *International Journal of Bank Marketing*, 33(4), 404-422. <https://doi.org/10.1108/IJBM-04-2014-0048>
  31. Khan, M. A., & Alhumoudi, H. A. (2022). Performance of E-banking and the mediating effect of customer satisfaction: a structural equation model approach. *Sustainability*, 14(12), 7224. <https://doi.org/10.3390/su14127224>
  32. Khazaei, A., Manjiri, H., Samiey, E., & Najafi, H. (2014). The effect of service convenience on customer satisfaction and behavioral responses in bank industry. *International Journal of Basic Sciences & Applied Research*, 3(1), 16-23. Retrieved from [https://www.academia.edu/81095570/The\\_Effect\\_of\\_Service\\_Convenience\\_on\\_Customer\\_Satisfac](https://www.academia.edu/81095570/The_Effect_of_Service_Convenience_on_Customer_Satisfac)

- tion\_and\_Behavioral\_Responses\_in\_Bank\_Industry
33. Kyari, A. K., & Hudithi, F. A. A. (2022). Understanding consumers' adoption of mobile banking in Nigeria: an empirical investigation. *International Journal of Learning and Change*, 14(2), 181-198. <https://doi.org/10.1504/IJLC.2022.121140>
  34. Lai, J. Y., Ulhas, K. R., & Lin, J. D. (2014). Assessing and managing e-commerce service convenience. *Information Systems Frontiers*, 16, 273-289. <https://doi.org/10.1007/s10796-012-9344-2>
  35. Lee, J. (2020). Task closure and task complexity effects on L2 written performance. *Journal of Second Language Writing*, 50, 100777. <https://doi.org/10.1016/j.jslw.2020.100777>
  36. Lin, H. F. (2013). Determining the relative importance of mobile banking quality factors. *Computer Standards & Interfaces*, 35(2), 195-204. <https://doi.org/10.1016/j.csi.2012.07.003>
  37. Liu, H., Ma, L., & Huang, P. (2015). When organizational complexity helps corporation improve its performance. *Journal of Management Development*, 34(3), 340-351. <https://doi.org/10.1108/JMD-05-2013-0071>
  38. Lou, L., Tian, Z., & Koh, J. (2017). Tourist satisfaction enhancement using mobile QR code payment: An empirical investigation. *Sustainability*, 9(7), 1186. <https://doi.org/10.3390/su9071186>
  39. Lutfi, A., & Alqudah, H. (2023). The Influence of Technological Factors on the Computer-Assisted Audit Tools and Techniques Usage during COVID-19. *Sustainability*, 15(9), 7704. <https://doi.org/10.3390/su15097704>
  40. Lutfi, A., Alkelani, S. N., Alqudah, H., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., Alsayouf, A., Alrawad, M., Montash, A., & Abdelmaksoud, O. (2022). The role of E-accounting adoption on business performance: The moderating role of COVID-19. *Journal of Risk and Financial Management*, 15(12), 617. <https://doi.org/10.3390/jrfm15120617>
  41. Mahakittikun, T., Suntrayuth, S., & Bhatiasevi, V. (2020). The impact of technological-organizational-environmental (TOE) factors on firm performance: Merchant's perspective of mobile payment from Thailand's retail and service firms. *Journal of Asia Business Studies*, 15(2), 359-383. <https://doi.org/10.1108/JABS-01-2020-0012>
  42. Maroufkhani, P., Iranmanesh, M., & Ghobakhloo, M. (2023). Determinants of big data analytics adoption in small and medium-sized enterprises (SMEs). *Industrial Management & Data Systems*, 123(1), 278-301. <https://doi.org/10.1108/IMDS-11-2021-0695>
  43. Mehmood, S. M., & Najmi, A. (2018). Understanding the impact of service convenience on customer satisfaction in home delivery: Evidence from Pakistan. *International Journal of Electronic Customer Relationship Management*, 11(1), 23-43. <https://doi.org/10.1504/IJECRM.2017.086752>
  44. Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192-222. <https://doi.org/10.1287/isre.2.3.192>
  45. Muhamad, N. (2024). *OJK Terima 17 Ribu Aduan Konsumen hingga Juli 2024, Ini Rinciannya [OJK Receives 17 Thousand Consumer Complaints by July 2024, Here are the Details]*. (In Indonesian). Retrieved from <https://databoks.katadata.co.id/datapublish/2024/08/08/ojk-terima-17-ribu-aduan-konsumen-hingga-juli-2024-ini-rinciannya>
  46. Murthy, U. S., Smith, T. J., Whitworth, J. D., & Zhang, Y. (2020). The effects of information systems compatibility on firm performance following mergers and acquisitions. *Journal of Information Systems*, 34(2), 211-233. <https://doi.org/10.2308/isy-18-004>
  47. Rahardja, U., Sigalingging, C. T., Putra, P. O. H., Hidayanto, A. N., & Phusavat, K. (2023). The Impact of Mobile Payment Application Design and Performance Attributes on Consumer Emotions and Continuance Intention. *SAGE Open*, 13(1). <https://doi.org/10.1177/21582440231151919>
  48. Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, 28(5), 328-341. <https://doi.org/10.1108/02652321011064872>
  49. Rogers, E. (2003). *Diffusions of Innovations* (5th ed.). Simon & Schuster Publisher.
  50. Roy, S. K., Lassar, W. M., & Shekhar, V. (2016). Convenience and satisfaction: Mediation of fairness and quality. *The Service Industries Journal*, 36(5-6), 239-260. <https://doi.org/10.1080/02642069.2016.1186657>
  51. Roy, S. K., Shekhar, V., Lassar, W. M., & Chen, T. (2018). Customer engagement behaviors: The role of service convenience, fairness and quality. *Journal of Retailing and Consumer Services*, 44, 293-304. <https://doi.org/10.1016/j.jretconser.2018.07.018>
  52. Salehi, F., Abdollahbeigi, B., Langroudi, A. C., & Salehi, F. (2012). The impact of website information convenience on e-commerce success of companies. *Procedia-social and Behavioral Sciences*, 57, 381-387. <https://doi.org/10.1016/j.sbspro.2012.09.1201>
  53. Seiders, K., Voss, G. B., Godfrey, A. L., & Grewal, D. (2007). SERVCON: development and validation of a multidimensional service convenience scale. *Journal of the Academy of Marketing Science*, 35, 144-156. <https://doi.org/10.1007/s11747-006-0001-5>
  54. Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
  55. Sembiring, S. M. R., Nasution, F. N., & Erlina (2024). Analyzing the Success of Mobile Banking Implementation by Integrating the Diffusion of Innovation and Service Convenience Framework: Based on the Experience of Students at the University of North

- Sumatera. *International Journal of Research and Review*, 11(4), 286-301. <https://doi.org/10.52403/ijrr.20240433>
56. Shahid, M. (2022). Exploring the determinants of adoption of Unified Payment Interface (UPI) in India: A study based on diffusion of innovation theory. *Digital Business*, 2(2), 100040. <https://doi.org/10.1016/j.digbus.2022.100040>
57. Shahijan, M. K., Rezaei, S., & Amin, M. (2018). Qualities of effective cruise marketing strategy: Cruisers' experience, service convenience, values, satisfaction and revisit intention. *International Journal of Quality & Reliability Management*, 35(10), 2304-2327. <https://doi.org/10.1108/IJQRM-07-2017-0135>
58. Shankar, A., & Rishi, B. (2020). Convenience matter in mobile banking adoption intention? *Australasian Marketing Journal*, 28(4), 273-285. <https://doi.org/10.1016/j.ausmj.2020.06.008>
59. Sultana, S., Akter, S., Kyriazis, E., & Wamba, S. F. (2021). Architecting and developing big data-driven innovation (DDI) in the digital economy. *Journal of Global Information Management (JGIM)*, 29(3), 165-187. <http://dx.doi.org/10.4018/JGIM.2021050107>
60. Taghizadeh, S. K., Rahman, S. A., Nikbin, D., Alam, M. M. D., Alexa, L., Ling Suan, C., & Taghizadeh, S. (2022). Factors influencing students' continuance usage intention with online learning during the pandemic: a cross-country analysis. *Behaviour & Information Technology*, 41(9), 1998-2017. <https://doi.org/10.1080/0144929X.2021.1912181>
61. Vincenzo. (2010). *Handbook of Partial Least Square*. Springer-Verlag Berlin Heidelberg.
62. Vyas, H., & Band, G. (2021). Service convenience and customer satisfaction: A study in the food and grocery retail context of Nagpur city. *International Journal of Management IT and Engineering*, 11(3), 47-54.
63. Winarti, Y., Sarkum, S., & Halim, A. (2021). Product Innovation on Customer Satisfaction and Brand Loyalty of Smartphone Users. *Journal of Applied Business Administration*, 5(2), 179-187. <http://dx.doi.org/10.30871/jaba.v5i2.3166>
64. Xia, H., Gao, Y., & Zhang, J. Z. (2023). Understanding the adoption context of China's digital currency electronic payment. *Financial Innovation*, 9(1), 1-27. <https://doi.org/10.1186/s40854-023-00467-5>
65. Yuen, K. F., Cai, L., Qi, G., & Wang, X. (2021). Factors influencing autonomous vehicle adoption: An application of the technology acceptance model and innovation diffusion theory. *Technology Analysis & Strategic Management*, 33(5), 505-519. <https://doi.org/10.1080/09537325.2020.1826423>
66. Zhang, Y., & Chan, K. K. (2021). Infusing visual analytics technology with business education: An exploratory investigation in fostering higher-order thinking in China. *Innovations in Education and Teaching International*, 58(5), 586-595. <https://doi.org/10.1080/14703297.2020.1793799>
67. Zoubi, M., ALfaris, Y., Fraihat, B., Otoum, A., Nawasreh, M., & ALfandi, A. (2023). An extension of the diffusion of innovation theory for business intelligence adoption: A maturity perspective on project management. *Uncertain Supply Chain Management*, 11(2), 465-472. <http://dx.doi.org/10.5267/j.uscm.2023.3.003>