Pay with Confidence : A Thematic Analysis of User Intentions and Perceptions on Third-Party and Banking Payment Apps

Subhajit Pahari [1]
Atanu Manna [2]
Debasish Biswas [3]

Abstract

Purpose : Mobile payment and banking applications have transformed traditional banking systems, gaining immense popularity among consumers. This study aimed to compare the usefulness and reliability of third-party payment and banking apps from the users' perspective.

Methodology : Using a qualitative research approach, we conducted 30 interviews with users from different backgrounds, employing purposive sampling. Thematic analysis was conducted using Atlast.ti software to accomplish the study's objectives.

Findings : The study identified the primary themes of utility and reliability into seven sub-themes. User-friendliness, accessibility, features and rewards, and trust and convenience were the four principal sub-themes that were highly related to usefulness. There was a strong correlation between these features and customers' plans to use third-party payment apps. On the other hand, customer support, stability, and security were closely related to the reliability theme and significantly helped customers of banking and payment apps.

Practical Implications : The study's findings suggested that third-party payment apps need to improve their reliability concerns, while banking payment apps need to enhance their usability features to compete in the market. Financial institutions, policymakers, and academicians could utilize these findings to design payment apps that meet customers' needs and expectations, gaining a competitive edge in the payment app market.

Originality : This research was the first to focus on and compare third-party payment and banking payment apps based on users' perceptions and use intentions. Above all, this study provided valuable insights into the features that customers consider crucial in payment and banking apps. Enhancing these features could lead to a better user experience and foster customer loyalty.

Keywords : banking payment app, third-party payment app, thematic analysis, user intentions, perceptions
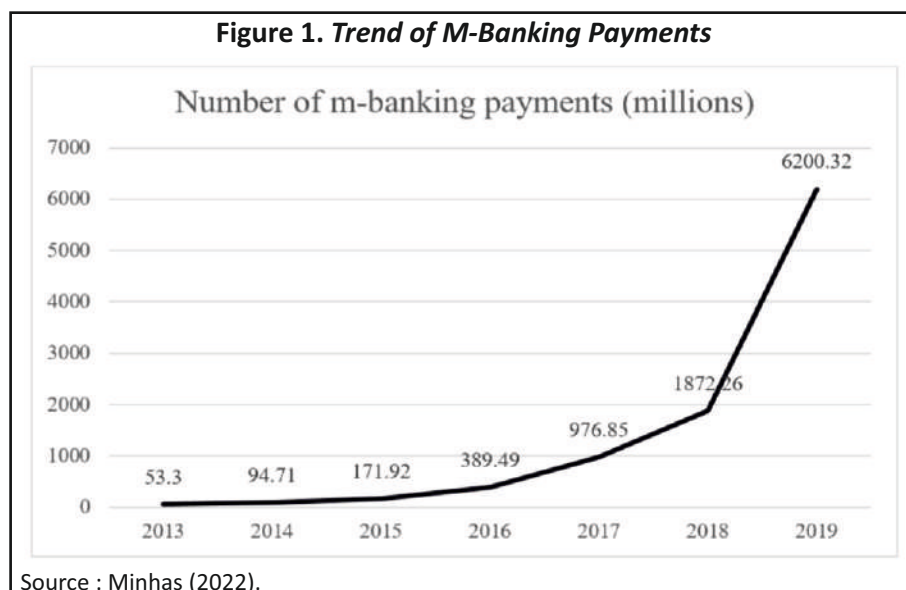
JEL Classification Codes : G210, M310, O330

Paper Submission Date : December 1, 2022 ; Paper sent back for Revision : April 15, 2023 ; Paper Acceptance Date : April 25, 2023 ; Paper Published Online : May 15, 2023

[1] *Assistant Professor (Corresponding Author),* Symbiosis Centre for Management Studies, Nagpur, Constituent of Symbiosis International (Deemed University), Pune, Nagpur - 440 008, Maharashtra. (Email : pahari.subhajit@gmail.com)
ORCID iD : https://orcid.org/0000-0001-9302-7680
[2] *Research Scholar,* Centre for Environmental Studies, Vidyasagar University, Vidyasagar University Road, Rangamati, Midnapore - 721 102, West Bengal. (Email : atanumanna329@gmail.com)
ORCID iD : https://orcid.org/0000-0003-0315-2731
[3] *Assistant Professor,* Department of Business Administration, Vidyasagar University, Vidyasagar University Road, Rangamati, Midnapore - 721 102, West Bengal. (Email : debasish762010@yahoo.com)
ORCID iD : https://orcid.org/0000-0001-8747-0934

Mobile applications have completely changed how people conduct their daily activities, including banking and financial transactions (Indriasari et al., 2019; Patki & Sople, 2022). The rise of payment and banking applications has transformed the established banking system by allowing users to conduct transactions from the convenience of their mobile phones (Lee & Chen, 2022). The number of m-payments is increasing day by day (Figure 1). These applications have emerged as a convenient and time-saving way to manage finances, pay bills, transfer money, and make purchases (Putra & Kurniawan, 2022).

Figure 1. *Trend of M-Banking Payments*

Number of m-banking payments (millions)

2013	53.3
2014	94.71
2015	171.92
2016	389.49
2017	976.85
2018	1872.26
2019	6200.32

Source : Minhas (2022).

The adoption of mobile payment technologies has increased significantly over the past few years (Verkijika, 2020). As more consumers shift toward using mobile payments, it becomes essential to understand the factors that influence their usage intentions (Patil et al., 2020). However, most of the study focuses on the m-banking system, user adoption of m-banking, and the effectiveness of m-banking over ATMs and net banking (Farzin et al., 2021). Recently, it has been noticed that the market for m-banking has become more competitive due to the popularization of the UPI system (Roy & Shaw, 2022). In order to offer customers efficient transactional services, competition has arisen between third-party and banking payment apps (Gupta et al., 2020). Both of these services rely on the UPI system. Third-party payment and banking applications have become increasingly popular due to their ease of use and accessibility (Li et al., 2019). However, both payment apps offer different features and benefits, which could affect consumers' adoption and usage intentions. Therefore, it is essential to identify and compare these features to determine their influence on usage intentions. However, there has been a debate on the usefulness and reliability of third-party payment and banking apps. The purpose of this study is to compare third-party payment apps and banking apps from the perspective of usefulness and reliability. The study aims to identify the reasons behind the preference for payment and banking apps and examine the factors contributing to their perceived usefulness and reliability.

The results of this study will provide valuable insights into the factors that influence the preference for payment and banking apps. The study will also contribute to the existing literature on the use of mobile applications in the banking sector. The findings of this study will be helpful for financial institutions and mobile application developers in enhancing the functionality and usability of payment and banking apps, which could potentially increase financial inclusion and economic growth.

Literature Review

The rapid development of technology has significantly transformed the way we conduct financial transactions (Gupta & Agarwal, 2023; Putra & Kurniawan, 2022). The emergence of UPI payment system-based apps has revolutionized performing financial transactions, making them easier, quicker, and more convenient (Yadav et al., 2023). With the widespread adoption of smartphones and mobile devices, third-party payment apps, and banking payment apps have become popular alternatives to traditional payment methods such as cash and credit cards (Behera et al., 2022). According to Yang et al. (2019), third-party payment apps refer to mobile payment services offered by non-financial institutions like PhonePe, BHIM, and Google Pay; whereas, banking payment apps are provided by banks and other financial institutions like Yono SBI, HDFC Bank MobileBanking App, and UCO m-Banking Plus. Several scholars have identified usability and reliability as the two prominent factors behind app usage research as they significantly influence users' perceptions and intentions to use mobile apps (Shen et al., 2020). The usability of mobile payment apps, including ease of use, functionality, and user interface, has a significant effect on user satisfaction and adoption intentions (Li et al., 2020).

Similarly, the reliability of mobile payment apps, including security, stability, and customer support, is also a critical factor in influencing users' trust and adoption intentions (Yang et al., 2019). Therefore, understanding the usability and reliability perspectives of mobile payment apps is essential in promoting their adoption and usage intentions among users. According to a study by Sim et al. (2021) conducted in China, users prefer third-party payment apps over banking payment apps because of how convenient and user-friendly they are. However, Choi et al. (2020) conducted a study in South Korea and found that users preferred banking payment apps over third-party payment apps because of their security, assurance policy, and stability. In another study, Leong et al. (2021) highlighted that perceived capability significantly contributes to payment app transactions, while perceived usefulness and ease of use play a mediating role. The study found that users perceive third-party payment apps as more useful in terms of convenience and user-friendliness.

The concept of usefulness in technology acceptance models is defined as the degree to which a particular technology enables the users to perform a task that is beneficial to them (Sagnier et al., 2020). Several studies have demonstrated that third-party payment apps are perceived to be more useful than banking payment apps due to their simplicity, speed, compatibility, social influence, and ease of use (Tang et al., 2021). According to studies, third-party payment systems offer a better user experience, are more convenient, and have a user-friendly interface (Basri & Shetty, 2018). Furthermore, third-party payment apps provide additional features, such as social media integration, which makes it easier for users to transfer money to friends and family. On the other hand, banking payment apps have also been found to be useful for some users. Banks offer an additional layer of security that third-party payment apps lack, as they are subject to rigorous regulations and have a trusted reputation. Additionally, banking payment apps give users and businesses more control and visibility over transactions, which can be beneficial for those who need to closely monitor their finances (Kapoor & Vij, 2020).

Reliability is defined as the degree to which a technology performs as intended without errors or system failures (Oliveira et al., 2016). Several studies have demonstrated that reliability is a significant factor in users' app adoption behaviors (Flavián et al., 2020). Payment apps are more trusted as they are backed by established financial institutions and are subject to rigorous regulations (Souiden et al., 2021). Additionally, banks invest heavily in cybersecurity measures to protect user data and financial transactions, which can enhance users' trust in their services (Alghazo et al., 2017). However, third-party payment apps have also been found to be reliable for users. Security, however, has been highlighted as the primary factor for users to trust the use of payment apps. Studies have found that users perceive banking payment apps to be more secure as they require authentication and provide better protection against fraud and theft (Hanif & Lallie, 2021). These apps have become a part of many users' daily lives, and their reliability is essential for users to continue to use them. Third-party payment apps also

invest heavily in cybersecurity measures and employ various measures to protect user data and financial transactions (Vadlamudi & Sam, 2022). However, with the emergence of multiple payment app options, users are faced with a choice between third-party payment apps and banking payment apps. Therefore, in order to improve their services and gain a competitive edge in the market, payment app providers must understand the factors that affect users' adoption and usage intentions of these payment apps. Therefore, there is still a deficiency of studies to explore the factors that affect the users' intention to use third-party as well as banking payment apps. The study will focus on the apps' reliability and usefulness perspectives to explore the factors that attract people to use different payment apps.

Methodology

This study utilized a qualitative approach to explore the experiences and perceptions of users of payment apps. The use of an inductive research approach allowed for an in-depth exploration of the research objectives. Purposive sampling was used to select 30 participants from various backgrounds who had been using payment apps for at least six months. The interviews were conducted in person and lasted 20 – 25 minutes, depending on the participants' language preferences. Between October 2022 and January 2023, the interviews were conducted (Table 1). The semi-structured questionnaire focused on the usefulness and reliability factors of the payment apps. Open-ended questions were utilized to allow for detailed responses. The audio recordings of the interviews were transcribed and analyzed using thematic analysis, which involved identifying themes and sub-themes based on the interview transcripts. Thematic analysis was done with the help of ATLAS.ti software. The conceptual framework is presented in Figure 2. Two researchers independently analyzed the data and compared their findings to ensure reliability and validity. The analysis showed that approximately 50% of the respondents were not using banking apps, while the majority of the respondents used an average of three third-party apps for their day-to-day UPI transactions. The respondents reported an average of 14 weekly transactions. Additionally, 50% of the respondents were under the age of 32. All stages of the research process took ethical considerations into account. All the participants informed consent, and personal information was kept confidential and anonymized in the final report. The study provides valuable insights into the experiences and perceptions of users of payment apps, which could inform the development and improvement of these apps in the future.

Table 1. *Interviewee Details*

Interviewee	Demographic Profile				Mobile Type and Payment App Uses Pattern			
Code	Gender	Age	Educational Level	Occupation	Phone Type	No. of Third- Party App Usages	No. of Banking App Usages	Average No. of Transactions (Weekly)
IC1	Men	29	Graduation	Student	Android	4	1	14
IC2	Men	28	Graduation	Student	Android	6	0	28
IC3	Men	28	Masters and higher	Student	Android	5	1	15
IC4	Men	46	Higher Secondary	Business	Android	3	2	48
IC5	Women	35	Graduation	Govt. Job	iOS	1	1	8
IC6	Women	37	Masters and higher	Govt. Job	Android	2	0	4
IC7	Men	51	Higher Secondary	Secondary	Android	1	0	6
IC8	Men	42	Secondary	Worker	Android	2	0	2

IC9	Men	24	Masters and higher	Private Job	iOS	3	0	4
IC10	Women	33	Higher Secondary	Private Job	Android	4	0	5
IC11	Men	35	Graduation	Govt. Job	Android	1	1	1
IC12	Women	25	Masters and higher	Student	iOS	3	0	21
IC13	Women	26	Masters and higher	Student	Android	2	1	10
IC14	Women	26	Masters and higher	Student	Android	3	0	14
IC15	Men	30	Masters and higher	Private Job	iOS	2	1	13
IC16	Men	48	Masters and higher	Govt. Job	iOS	0	1	2
IC17	Men	52	Masters and higher	Govt. Job	Android	1	1	2
IC18	Women	39	Masters and higher	Govt. Job	Android	1	0	1
IC19	Men	47	Masters and higher	Govt. Job	Android	3	0	12
IC20	Men	27	Graduation	Private Job	Android	4	1	15
IC21	Men	28	Graduation	Private Job	Android	4	2	19
IC22	Men	28	Masters and higher	Private Job	Android	3	0	21
IC23	Men	29	Masters and higher	Private Job	iOS	2	0	26
IC24	Men	42	Higher Secondary	Worker	Android	5	0	12
IC25	Men	33	Higher Secondary	Worker	Android	3	0	14
IC26	Men	23	Secondary	Worker	Android	4	0	13
IC27	Men	27	Graduation	Student	Android	2	1	7
IC28	Men	29	Secondary	Worker	Android	3	1	14
IC29	Men	44	Higher Secondary	Worker	Android	4	1	19
IC30	Women	42	Secondary	Worker	Android	2	1	12

Figure 2. *Conceptual Framework Based on the Thematic Analysis*
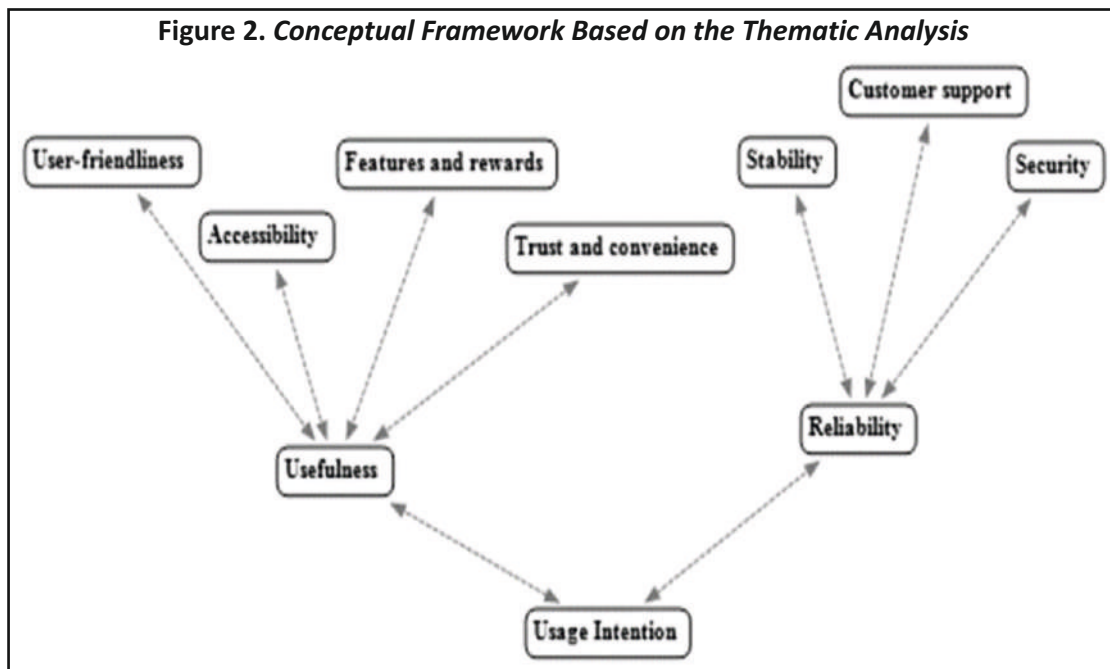
Data Analysis and Results

Thematic analysis of the interviews identified two main themes: usefulness and reliability, which affected users' intent to use third-party payment apps and banking payment apps. Each theme consisted of several sub-themes that were identified through the analysis. The sub-themes for usefulness were trust and convenience, accessibility, user-friendliness, and features. The sub-themes for reliability were security, stability, and customer support.

Theme 1 : Usefulness

The theme of usefulness was identified as an important factor in the participants' intention to use either third-party payment apps or banking payment apps. Trust and convenience, accessibility, user-friendliness, and features were recognized as four sub-themes. The participants who preferred third-party payment apps found them more convenient for transferring money to friends or paying for goods and services without having to go to the bank or carry cash. They also found these apps to be more user-friendly and to have a simple interface, making it easy for them to navigate through the app to make transactions (Basri & Shetty, 2018). Furthermore, the participants appreciated the additional features offered by the third-party payment apps, such as gas booking, loan repayment, and house rent payment. Some participants also mentioned that they were attracted to the reward system offered by these apps.

On the other hand, participants who preferred banking payment apps discovered them more accessible for viewing their balance, paying their bills, and conducting transactions on their mobile devices or computers. They also appreciated the stability of these apps, as they hardly experienced any technical issues, and their transactions were processed quickly and smoothly (Navena Nesa Kumari et al., 2021). However, some respondents stated that they faced issues logging in to the banking app and preferred the third-party payment app because it was more user-friendly. Below are some of the themes briefly discussed.

✤ **Trust and Convenience :** Participants reported that third-party payment apps were more convenient than banking payment apps. They mentioned the ability to quickly and easily send and receive payments as well as the availability of additional features like split payments and bill payments as the advantages of third-party payment apps.

> I find third-party payment apps more convenient because I can easily transfer money to my friends or pay for goods and services without having to go to the bank or carry cash. (IC1)

> The banking app is more trustable but not friendly. So, I am using third-party apps, especially for transactions for regular shopping and small transactions. (IC3)

> Third party payment app QR code is available in most shops and is quite satisfactory for making hassle-free payments. (IC18)

> I use only banking app for transactions as I only trust banks only. (IC16)

✤ **Accessibility** : Third-party payment apps are more accessible than banking payment apps due to their availability on a range of devices and in multiple languages and currencies. This makes it easier for users to access and use these apps for their payment needs.

> I use third-party payment apps more often because they are more accessible. I can easily check my balance, pay my bills, and make transactions using my mobile device. (IC17)

I use banking apps only for balance checking as it is not comfortable for transactions. (IC30)

The third-party app is easy to handle for transactions as only a mobile number or QR is enough for payment. (IC25)

↳ *User-Friendliness :* Participants reported that third-party payment apps were more user-friendly than banking payment apps. They cited the apps' simple and intuitive user interface and the ability to easily link bank accounts and credit cards to the app as reasons for the user-friendliness of third-party payment apps.

I prefer third-party payment apps because they are more user-friendly. The interface is simple, and I can easily navigate through the app to make transactions. (IC3)

I used to use my banking app, but frequently it used to get logged out and show to contact with the bank. I think third-party apps are quite better if you have less money in the bank account. (IC24)

The third-party app has most of the features that are required in present days, and that's why it has become familiar to people like me. (IC15)

↳ *Features and Rewards :* The fact that third-party payment apps offered more features than banking payment apps was also brought up by participants. They cited the ability to make peer-to-peer payments and the availability of additional services such as mobile wallets and loyalty programs as reasons for the feature richness of third-party payment apps.

The third-party app provides so many features which are essential in recent times, like gas booking, loan repayment, and house rent payment. (IC12)

The banking app is good for transactions but does not provide the necessary features. (IC14)

Third-party apps also provide good rewards, which attract me. (IC1)

Theme 2 : Reliability

The theme of reliability was identified as another important factor in the participants' intention to use either third-party payment apps or banking payment apps. There were found to be three sub-themes: security, stability, and customer support. The participants who preferred banking payment apps found them more reliable because of the better security features, such as authentication and protection from fraud and theft (Navena Nesa Kumari et al., 2021). They also appreciated the stability of these apps, as they hardly experienced technical issues. Moreover, they found the customer support of these apps to be more helpful in case of any issues or questions. However, some participants who preferred third-party payment apps found them less reliable due to issues with customer support. For example, one participant shared that when a transaction failed but money was deducted from his account, the customer service of the third-party payment app suggested contacting the bank. However, the bank did not cooperate on that matter, leading to a negative experience. Below is a brief explanation of the specified themes:

↳ *Security :* The participants identified security as a critical factor in determining a payment app's reliability. They cited the use of encryption and two-factor authentication as important security measures in both third-party and banking payment apps. However, some participants expressed concerns about the security of third-party payment apps, particularly regarding safeguarding personal and financial information. To improve the security of the payment app, some respondents did concur that appropriate app policies are required.

I trust banking payment apps more because they have better security features. They require authentication, and my account is protected from fraud and theft. (IC29)

The banking apps are good for transferring big amounts as I think any issue, if it occurs, will be resolved by the banks seamlessly. (IC2)

I only use banking apps for my transactions as I don't trust other apps for security reasons. (IC16)

I used both apps, but most of my transactions are through third-party apps. I don't fear about the security as I don't deal with large amounts of money. (IC21)

✤ **Stability :** Participants also identified stability as an important factor in determining the reliability of a payment app. They cited the apps' ability to process transactions quickly and without errors, as well as their ability to function without crashing or freezing, as important indicators of stability. Participants noted that both third-party payment apps and banking payment apps were generally stable, but some participants reported experiencing occasional technical issues with third-party payment apps.

I prefer banking payment apps because they are more stable. I never experience any technical issues, and my transactions are processed quickly and smoothly. (IC5)

Several times I noticed transaction issues for the third-party apps while shopping. (IC4)

I think banking apps are more stable than third-party apps as there are less number of users. (IC27)

✤ **Customer Support :** Participants identified customer support as another essential factor in determining the reliability of a payment app. They cited the availability of customer service representatives and the quality of support provided as important reliability indicators. Participants indicated that customer service is typically excellent for both third-party and banking payment apps. However, some participants expressed concerns about the timeliness and effectiveness of support provided by third-party payment apps.

I find banking payment apps more reliable because they have better customer support. Whenever I have a problem or a question, I can easily reach out to their support team and get my issues resolved quickly. (IC24)

I had a transaction that failed, and money got deducted, and the customer service representative of a third-party app suggested me to contact my bank. It went very lengthy, and I had a pathetic experience. (IC20)

Customer support is not bad for third-party apps, but they are not that efficient in resolving issues quickly. (IC15)

Mapping Themes to Theories

After carefully examining the themes derived from the inductive thematic analysis, it is noticed that majority of the themes can be linked with the pre-existing theories of use behavior and technological adoption (Peng et al., 2016). For example, facilities for using apps, price value, and self-reluctance are mainly associated with the user-friendliness of the app toward app usage intention. Similarly, perceived trust and compatibility are also strongly linked with the theme of trust and convenience. Table 2 highlights the themes and sub-themes and their links with existing theoretical constructs. The study mainly connects themes and existing theoretical constructs to improve the usage intention literature.

Table 2. *Theoretical Linkage*

Theme/Sub-theme	Construct in Theories
Usefulness	Perceived usefulness[a], Use[b], Easy of use[c]
Trust and Convenience	Compatibility[d], Perceived trust[e], Trust[f]
Accessibility	Effort expectancy[e]
User-Friendliness	Perceived ease of use[a], Performance expectancy[e]
Features and rewards	Facilitating conditions[e], Price value[e], Cost[g], Self-reactance[j]
Reliability	Perceived behavioral control[d], Reliability[h]
Security	Perceived Risk[e], Privacy concern[e]
Stability	Reputation[g], Informativeness[i]
Customer support	NA

Note. [a] Technology acceptance model.

[b] Information systems success model.

[c] Theory of reasoned action.

[d] Theory of planned behavior.

[e] Extended unified theory of acceptance and use of technology.

[f] Trust-commitment theory.

[g] Social exchange theory.

[h] SERVQUAL model.

[i] Uses and gratifications theory.

[j] Social cognitive theory.

The findings of this study will significantly contribute to the existing literature by providing insights into the factors that influence users' intention to use third-party payment apps and banking payment apps from a usefulness and reliability perspective. The results of this study suggest that users' intention to use these apps is driven by different factors and that both types of apps have their own strengths and weaknesses. Therefore, users should choose the app that best suits their needs and preferences, depending on the context and the tasks they need to perform.

Discussion

The way we handle money has undergone a massive transformation in recent years with the rise of payment apps. The convenience and accessibility offered by these apps have made them increasingly popular among users. The present study contributes to the growing body of research that explores users' perspectives on payment apps, particularly emphasizing the usefulness and reliability of third-party and banking payment apps. The study found that users' intentions to use payment apps are influenced by different factors depending on the type of app. Third-party payment apps are found to be more convenient and user-friendly, while banking payment apps are perceived to be more accessible and reliable in terms of security and customer support. These findings highlight the importance of considering user needs and preferences when designing payment apps. Payment app providers should focus on providing convenience and user-friendliness to attract users, while financial institutions should prioritize accessibility, security, and customer support to gain users' trust and retain their loyalty. Overall, the study's findings contribute to our understanding of users' perceptions of payment apps and provide valuable

insights for payment app providers, financial institutions, policymakers, and consumers. As payment apps continue to shape the way we handle our finances, it is crucial to ensure that they meet users' needs and expectations while also providing a safe and reliable means of transacting money.

Implications

Theoretical Implications

This study has made significant theoretical contributions to the existing literature on payment app adoption and usage. It has provided valuable insights into the usefulness and reliability of third-party payment apps and banking payment apps, which are critical determinants of users' adoption and continued usage of payment apps. The study has also identified several critical factors related to various theoretical frameworks, including the technology acceptance model, social exchange theory, information systems success model, and trust theory (Biswas et al., 2023; Pahari et al., 2023). The findings of this study will help scholars integrate these theories for quantitative analysis and gain more insightful outcomes. By examining the usefulness and reliability factors of payment apps, the study contributes to the existing literature on various theoretical frameworks, providing insights into the factors that influence users' adoption and usage intentions of payment apps. These contributions will ultimately lead to improved payment app designs and increased user adoption and usage, benefiting scholars and practitioners in the field. Overall, this study's theoretical contributions significantly enhance the understanding of payment app adoption and usage, making it a valuable addition to the literature.

Practical Implications

The present study has important practical implications for various stakeholders in the payment app market. Payment app providers can benefit from the study's findings by improving their payment apps based on users' needs and expectations for usefulness and reliability (Manna et al., 2023; Pahari et al., 2023). This can increase the adoption and usage of payment apps, benefiting both users and payment app providers. Financial institutions can use the study's findings to design payment apps that meet their customers' needs and expectations, gaining a competitive edge in the payment app market. Policymakers can use the study's findings to design regulations that ensure payment app users' safety and security while promoting innovation and competition in the payment app market. Finally, consumers can make more informed decisions when choosing between payment apps based on their understanding of the factors that influence users' adoption and usage intentions. Overall, the study's findings have significant practical implications for payment app providers, financial institutions, policymakers, and consumers, enabling them to make better-informed decisions and improve the payment app market.

Conclusion

In conclusion, this study highlights the importance of both usefulness and reliability factors in determining users' intentions to use third-party payment apps and banking payment apps. Convenience, accessibility, user-friendliness, and features are key sub-themes under usefulness, while security, stability, and customer support are important sub-themes under reliability. The popularity of payment apps has increased due to their convenience, speed, and ease of use, but in order to maximize user intent, payment app providers must give reliability issues a top priority. To increase usability, banking apps need to focus on improving their login system and adding new features to enhance usability. Additionally, consumer awareness is crucial to ensuring the proper use of the apps and addressing cybersecurity concerns. The study's findings can inform policymakers on formulating regulations

that promote innovation, competition, and user safety in the payment app market. For financial institutions, the study's findings can guide the design of payment apps that meet customers' needs and expectations.

Limitations of the Study and Scope for Future Research

The rise of digitalization has revolutionized the banking sector, making mobile banking apps an essential tool for many people. However, as with any study, there are limitations that must be acknowledged. One significant limitation of this study is its narrow geographical focus. The study was conducted only in India, so its findings might not apply to other regions or cultures. Therefore, to provide a more comprehensive understanding of user behavior, future research should take into account a more diverse set of participants from different locations. Additionally, relying on self-reported data can introduce biases that may influence the study's findings. To address this, future research should incorporate a variety of data collection methods, such as observation, surveys, and behavioral tracking. This will improve the accuracy and reliability of the results. By adopting quantitative analysis and employing different data collection methods, we can identify and assess the impact of each factor on app usage intentions. This will not only increase our understanding of user behavior toward third-party and banking apps, but also provide valuable insights for app developers and financial institutions to improve their services and meet customer needs.

Authors' Contribution

Atanu Manna and Dr. Subhajit Pahari conceived the idea and developed the design to undertake the study. Dr. Debasish Biswas extracted highly reputed research papers, filtered these based on keywords, and generated concepts relevant to the study design. Dr. Subhajit Pahari verified the methods and supervised the study. Dr. Subhajit Pahari conducted the interviews. Atanu Manna and Dr. Subhajit Pahari wrote the manuscript in consultation with Dr. Debasish Biswas.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

Funding Acknowledgment

References

Alghazo, J. M., Kazmi, Z., & Latif, G. (2017). Cyber security analysis of internet banking in emerging countries: User and bank perspectives. *2017 4th IEEE International Conference on Engineering Technologies and Applied Sciences (ICETAS)*, 1–6. https://doi.org/10.1109/icetas.2017.8277910

Basri, S., & Shetty, D. (2018). Predicting e-banking adoption : An evaluation of perceptions and behavioural intentions of small and medium enterprises in Karnataka. *Indian Journal of Finance*, *12*(7), 28–41. https://doi.org/10.17010/ijf/2018/v12i7/129969

Behera, R. K., Bala, P. K., & Rana, N. P. (2022). Assessing factors influencing consumers' non-adoption intention: Exploring the dark sides of mobile payment. *Information Technology & People, Vol. ahead-of-print, No. ahead-of-print*. https://doi.org/10.1108/itp-03-2022-0223

Biswas, D., Manna, A., & Pahari, S. (2023). Technology management (TM) on corporate sustainability performance (CSP): The moderating role of total quality management (TQM). *FIIB Business Review*. https://doi.org/10.1177/23197145231168726

Choi, H., Park, J., Kim, J., & Jung, Y. (2020). Consumer preferences of attributes of mobile payment services in South Korea. *Telematics and Informatics, 51*, 101397. https://doi.org/10.1016/j.tele.2020.101397

Farzin, M., Sadeghi, M., Yahyayi Kharkeshi, F., Ruholahpur, H., & Fattahi, M. (2021). Extending UTAUT2 in M-banking adoption and actual use behavior: Does WOM communication matter? *Asian Journal of Economics and Banking, 5*(2), 136–157. https://doi.org/10.1108/AJEB-10-2020-0085

Flavián, C., Guinaliu, M., & Lu, Y. (2020). Mobile payments adoption – introducing mindfulness to better understand consumer behavior. *International Journal of Bank Marketing, 38*(7), 1575–1599. https://doi.org/10.1108/IJBM-01-2020-0039

Gupta, R., Kapoor, C., & Yadav, J. (2020). Acceptance towards digital payments and improvements in cashless payment ecosystem. *2020 International Conference for Emerging Technology (INCET)*, 1–9. https://doi.org/10.1109/INCET49848.2020.9154024

Gupta, U., & Agarwal, B. (2023). The role of digital financial services on Indian MSMEs. *Indian Journal of Finance*, *17*(2), 08–26. https://doi.org/10.17010/ijf/2023/v17i2/170125

Hanif, Y., & Lallie, H. S. (2021). Security factors on the intention to use mobile banking applications in the UK older generation (55+). A mixed-method study using modified UTAUT and MTAM - with perceived cyber security, risk, and trust. *Technology in Society, 67*, 101693. https://doi.org/10.1016/j.techsoc.2021.101693

Indriasari, E., Gaol, F. L., & Matsuo, T. (2019). Digital banking transformation: Application of artificial intelligence and big data analytics for leveraging customer experience in the Indonesia Banking Sector. *2019 8th International Congress on Advanced Applied Informatics (IIAI-AAI)*, 863–868. https://doi.org/10.1109/IIAI-AAI.2019.00175

Kapoor, A. P., & Vij, M. (2020). How to boost your app store rating? An empirical assessment of ratings for mobile banking apps. *Journal of Theoretical and Applied Electronic Commerce Research, 15*(1), 99–115. https://doi.org/10.4067/S0718-18762020000100108

Lee, J.-C., & Chen, X. (2022). Exploring users' adoption intentions in the evolution of artificial intelligence mobile banking applications: The intelligent and anthropomorphic perspectives. *International Journal of Bank Marketing, 40*(4), 631–658. https://doi.org/10.1108/IJBM-08-2021-0394

Leong, C.-M., Tan, K.-L., Puah, C.-H., & Chong, S.-M. (2021). Predicting mobile network operators users m-payment intention. *European Business Review, 33*(1). https://doi.org/10.1108/EBR-10-2019-0263

Li, J., Wang, J., Wangh, S., & Zhou, Y. (2019). Mobile payment with Alipay: An application of extended technology acceptance model. *IEEE Access, 7*, 50380–50387. https://doi.org/10.1109/ACCESS.2019.2902905

Li, X., Zhao, X., Xu, W. (Ato), & Pu, W. (2020). Measuring ease of use of mobile applications in e-commerce retailing from the perspective of consumer online shopping behaviour patterns. *Journal of Retailing and Consumer Services, 55*, 102093. https://doi.org/10.1016/j.jretconser.2020.102093

Manna, A., Pahari, S., Rana, S., & Biswas, D. (2023). A case on the project failure of water vending machines of Indian Railways : Financial concerns and beyond. *Prabandhan: Indian Journal of Management, 16*(3), 27–41. https://doi.org/10.17010/pijom/2023/v16i3/172749

Minhas, A. (2022, March 17). *Number of mobile banking payments across India from financial year 2013 – 2019*. Statista. https://www.statista.com/statistics/870487/india-mobile-banking-payment-volume/

Navena Nesa Kumari, J., Joe Arun, C., & Irudaya Veni Mary, A. (2021). Mobile payment technology adoption in SME owners in India – An empirical study. *Indian Journal of Finance*, *15*(1), 36–54. https://doi.org/10.17010/ijf/2021/v15i1/157013

Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior, 61*, 404–414. https://doi.org/10.1016/j.chb.2016.03.030

Pahari, S., Ghosal, I., Prasad, B., & Dildar, S. M. (2023). Which determinants impact consumer purchase behavior toward online purchasing of organic food products? *Prabandhan: Indian Journal of Management, 16*(1), 25–41. https://doi.org/10.17010/pijom/2023/v16i1/172667

Pahari, S., Polisetty, A., Sharma, S., Jha, R., & Chakraborty, D. (2023). Adoption of AI in the banking industry : A case study on Indian banks. *Indian Journal of Marketing, 53*(3), 26–41. https://doi.org/10.17010/ijom/2023/v53/I3/172654

Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. *International Journal of Information Management, 54*, 102144. https://doi.org/10.1016/j.ijinfomgt.2020.102144

Patki, A., & Sople, V. (2022). Open banking ecosystem : The Indian perspective. *Indian Journal of Finance*, *16*(5), 24–40. https://doi.org/10.17010/ijf/2022/v16i5/169516

Peng, W., Kanthawala, S., Yuan, S., & Hussain, S. A. (2016). A qualitative study of user perceptions of mobile health apps. *BMC Public Health, 16*, Article 1158. https://doi.org/10.1186/s12889-016-3808-0

Putra, C. I., & Kurniawan, D. (2022). The effect of financial knowledge, time saving, money saving, and convenience to use intention digital mobile payment apps in Bekasi City. *East Asian Journal of Multidisciplinary Research, 1*(11), 2727–2736. https://doi.org/10.55927/eajmr.v1i11.2245

Roy, P. K., & Shaw, K. (2022). An integrated fuzzy model for evaluation and selection of mobile banking (m-banking) applications using new fuzzy-BWM and fuzzy-TOPSIS. *Complex & Intelligent Systems, 8*, 2017–2038. https://doi.org/10.1007/s40747-021-00502-x

Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I., & Valléry, G. (2020). User acceptance of virtual reality: An extended technology acceptance model. *International Journal of Human–Computer Interaction, 36*(11), 993–1007. https://doi.org/10.1080/10447318.2019.1708612

Shen, H., Faklaris, C., Jin, H., Dabbish, L., & Hong, J. I. (2020). 'I can't even buy apples if I don't use mobile pay?': When mobile payments become infrastructural in China. *Proceedings of the ACM on Human-Computer Interaction, 4*(CSCW2), 1–26. https://doi.org/10.1145/3415241

Sim, J. J., Loh, S. H., Wong, K. L., & Choong, C. K. (2021). Do we need trust transfer mechanisms? An m-commerce adoption perspective. *Journal of Theoretical and Applied Electronic Commerce Research, 16*(6), 2241–2262. https://doi.org/10.3390/jtaer16060124

Souiden, N., Ladhari, R., & Chaouali, W. (2021). Mobile banking adoption: A systematic review. *International Journal of Bank Marketing, 39*(2), 214–241. https://doi.org/10.1108/IJBM-04-2020-0182

Tang, Y. M., Chau, K. Y., Hong, L., Ip, Y. K., & Yan, W. (2021). Financial innovation in digital payment with WeChat towards electronic business success. *Journal of Theoretical and Applied Electronic Commerce Research, 16*(5), 1844–1861. https://doi.org/10.3390/jtaer16050103

Vadlamudi, S., & Sam, J. (2022). Unified payments interface – Preserving the data privacy of consumers. *2022 International Conference on Cyber Resilience (ICCR)*, 1–6. https://doi.org/10.1109/ICCR56254.2022.10024689

Verkijika, S. F. (2020). An affective response model for understanding the acceptance of mobile payment systems. *Electronic Commerce Research and Applications, 39*, 100905. https://doi.org/10.1016/j.elerap.2019.100905

Yadav, A. N., Singh, S., & Jaiswal, A. (2023). A study of regional rural banks : The conundrum of managing inclusion with sustainability. *Indian Journal of Finance, 17*(1), 47–65. https://doi.org/10.17010/ijf/2023/v17i1/172602

Yang, W., Li, J., Zhang, Y., & Gu, D. (2019). Security analysis of third-party in-app payment in mobile applications. *Journal of Information Security and Applications, 48*, 102358. https://doi.org/10.1016/j.jisa.2019.102358

About the Authors

Dr. Subhajit Pahari is presently serving as an Assistant Professor at the Symbiosis Centre for Management Studies, Nagpur, Constituent of Symbiosis International (Deemed University), Pune. He has more than seven years of experience and has published and presented more than 25 research papers. He has successfully guided one PhD Scholar and is currently guiding two PhD Scholars.

Atanu Manna is a Research Scholar at the Centre for Environmental Studies, Vidyasagar University. He has an MSc in geography and an MBA with an HR specialization. He has published six research papers and two book chapters in leading journals.

Dr. Debasish Biswas is an Assistant Professor in the Department of Business Administration at Vidyasagar University, West Bengal. He has contributed 91 research papers to various national and international seminars. He has published 76 research articles in reputable national and international journals. He has successfully guided 10 PhD Scholars in the domain of management.