Designing a Framework of Determinants for Users' Continuous Use of Mobile Banking: A Qualitative Study

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ABSTRACT

While the intention to adopt mobile banking services (m-banking) has been extensively studied, the factors influencing continuous use of m-banking services post-adoption remain relatively underexplored. Employing a qualitative approach, this study aims to develop a comprehensive framework for understanding sustained mobile banking usage determinants. Data were collected through open and in-depth interviews with 10 experts and specialists in the field of information technology and analyzed using a phenomenological approach. The results were categorized into three main dimensions: organizational, environmental, and individual factors. The organizational dimension encompasses 15 factors, including performance / service quality, information quality, aesthetic design, user compatibility, human interactive features, confidentiality assurance/ privacy protection, system integration, authenticity, reducing interactive costs, security measures/ security of banking apps, ease of use, reputation / organizational credibility, customer support, secure authentication, and customization. The environmental dimension comprises four factors, including cultural context and social distance, economic development, education and digital literacy, and technological development. The individual user dimension identifies 12 factors such as such as perceived service value, user trust, satisfaction, perceived self-efficacy, previous experience, subjective norms, attitudes, digital resilience, and adaptability to technological changes.

KEYWORDS

Adoption Intention, Continuous Use, Mobile Banking.

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Introduction

The complex and growing developments in information technology (IT) have significantly affected service and non-service companies (Andani & Hidayat, 2022). IT systems, alongside rapid growth in internet-mobile communications and smartphones, have led to major advancements in mobile commerce (m-commerce) (Ngai & Gunasekaran, 2007; Tiwari et al., 2021; Naruetharadhol et al., 2021; Lee et al., 2023; Nguyen & Dao, 2024). This digital landscape has become a key tool for service and non-service industries to maintain their competitive position in the business world (Andani & Hidayat, 2022). As a result, businesses are keen to offer their electronic services to consumers (Poromatikul et al., 2020) because they need to provide fast and simple services that are directly accessible and under their customers' control (Rahma & Sofyani, 2024).

Recent technological advancements have influenced consumer demand, shifting it toward online transactions and increasing user accessibility (Souiden et al., 2021; Cassioli & Balconi, 2022; Che et al., 2023). Customer interaction and online experiences are recognized as part of electronic or digital service quality (Rahma & Sofyani, 2024). Accordingly, to address or limit the changes in consumer behavior, organizations must understand the key factors that influence consumer decision-making in banking (Hidayat, 2023). Banks have been at the forefront of financial services sector in rapidly transitioning interpersonal services to mobile-based channels (Alsmadi et al., 2022; Souiden et al., 2021).

Today's banking customers seek 24/7 access to their accounts. They want the same services on their mobile devices, which are available at a physical bank branch. To improve their electronic services and make informed decisions, banks must understand the key factors that may lead to user satisfaction and continuous use. Mobile banking (m-banking) is a rapidly developing sector that utilizes mobile technology to offer banking services anytime and anywhere (Hidayat, 2023).

Since most existing studies consider continuous use as a post-adoption behavior, the intention for mobile banking services (m-banking) post-adoption has not been extensively examined (Basu et al., 2024). Therefore, to understand post-adoption consumer behavior from a mobile banking perspective, it is crucial to identify and examine the key factors that influence consumers' continuous use intention (Hidayat, 2023). A comprehensive understanding of continuous use factors can guide banks in developing effective strategies to increase user engagement and satisfaction with mobile banking services (Ginting, 2023).

According to reports, digital transactions are expected to reach $14.79 trillion by 2027, with an average annual growth rate of 11.79%. Among the key players, China and the United States lead the digital banking services market, followed by the UK, Japan, and Germany (Nguyen & Dao, 2024). Given the importance of this trend, providing a framework for the determinants of continuous use of mobile banking services is essential. As a result, the present study aims to identify factors influencing users' continuous use of mobile banking.

Mobile Banking and Continuous Use

Mobile banking is a specialized application developed by banks to provide services to their customers. This app enables users to carry out various financial transactions, such as transferring money, recharging credit, etc., quicky and simple. With mobile banking, customers can manage these tasks conveniently through a user-friendly app, eliminating the need to visit ATMs (Andani & Hidayat, 2022). When customers find that the mobile banking app meets or exceeds their expectations, they will likely experience satisfaction, leading to a higher likelihood of continued use (Sharma, 2024).

Mobile banking leverages mobile technology to deliver banking services anytime and anywhere, offering various functions, such as checking account balances, transferring funds, and even engaging in stock trading (Lacmanovic et al., 2012). The expansion of mobile banking has been greatly driven by the widespread use of smartphones, with research indicating that 80% of users access mobile banking via these devices (Khan et al., 2020). Financial institutions and banks provide comprehensive services, such as money transfers, online payments, financial transactions, and account balance inquiries, through mobile banking applications installed on smartphones, accessible at any time and place. Mobile banking services are gradually gaining individual users and are expected to emerge as the dominant payment method for customers (Khoa, 2021). Mobile banking continuously improves the customer experience through several key factors, including service quality, user satisfaction, and design aesthetics (Issahaku et al., 2024).

Continuous intention refers to the strength of an individual's willingness to perform specific behaviors and can measure a person's inclination to repeat those behaviors. In this context, customer satisfaction and trust lead to increased customer intentions to repeatedly use mobile banking, turning them into loyal users of these services (Amoroso & Chen, 2017). Continuous use of mobile banking refers to customers' ongoing use and trust in mobile banking applications, which is critical for retaining users in a digital banking environment. Studies show that experienced users are committed to their banking relationships, and mobile banking brings significant added value to them (Shaikh et al., 2015).

Continuous intention indicates the strength of an individual's intention to continue a specific behavior. This is a proxy for the continuous use of a system or IT (Amoroso & Chen, 2017). Despite technological advancements and the rapid growth of mobile commerce, there is insufficient information about the factors that drive continuous use of mobile financial services after adoption (Kang et al., 2012). This is because researchers have mainly focused on initial adoption rather than continuous intention, making the study of continuous use in mobile banking an important topic requiring further research. Given the above facts, understanding post-adoption behaviors is essential to grasp the factors influencing consumers' continuous intention to use mobile banking (Hidayat et al., 2021). A comprehensive understanding of these dynamics can help banks improve their customer retention strategies and enhance mobile banking experiences (Che et al., 2023). Since banks can only achieve success by retaining their users (Foroughi et al., 2019;

Rabaa'i & ALMaati, 2021), and mobile banking payments involve a large ecosystem, customers are increasingly inclined toward using digital-based online banking services or mobile banking apps for continuous use (Tam & Oliveira, 2016).

Literature Review

The literature on Information Systems (IS) in mobile banking services reveals a substantial body of research examining the factors influencing the adoption stages of mobile banking services across various countries. Researchers in the field of IS have utilized a range of theoretical models to explore the factors that impact the pre-adoption or adoption phases of mobile banking services (Rabaa'i & ALMaati, 2021). Several studies have employed well-established theories, including the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Task-Technology Fit (TTF), and the Theory of Planned Behavior (TPB), to identify the key factors influencing the adoption of mobile banking. However, there is a gap in research concerning the factors that affect the decision to continue using mobile banking applications once they have been initially adopted (Al-Laheebi, 2022). Below, some studies in this area are discussed.

Mobile banking transactions face significant security threats. In their study, Sripada and Chattopadhyay (2023) described major threats, vulnerabilities, and strategies to counter these risks, emphasizing the need for robust security measures in today's mobile banking applications. They provided a comprehensive framework of threats and identified strategies to mitigate them.

Similarly, another study introduced a secure authentication solution to improve the security of mobile banking applications. This solution uses a convolutional neural network model to integrate facial recognition into mobile banking apps, highlighting the critical role of authentication in ensuring secure mobile banking transactions (Oguntimilehin et al., 2022).

Given the importance of investing in digital technologies to enhance banking services and customer satisfaction, research findings indicate that perceived self-efficacy and ease of use positively influence the intention to continue using digital banking services. Perceived usefulness was found to affect these relationships, acting as a key mediator between perceived self-efficacy and continuous usage intention, as well as between perceived ease of use and continuous usage intention (Asamoah et al., 2024).

Issahaku et al. (2024) conducted a study to examine the factors influencing the continuous use of mobile banking applications in Ghana. Data analysis from a survey of 300 respondents using the Expectation-Confirmation Model combined with user satisfaction showed that perceived usefulness, satisfaction, design aesthetics, information quality, and confirmation determine the continuous use of mobile banking (Issahaku et al., 2024).

Another study focused on identifying the predictors of mobile banking usage among Generation Z. The findings emphasized the importance of improving mobile banking services to satisfy Generation Z. Using structural equation modeling, the study revealed

significant relationships between satisfaction, commitment, trust, service value, quality, anxiety and continuous mobile banking use (Sari & Nikmah, 2024).

Nguyen and Dao (2024) surveyed 523 consumers in Vietnam to identify the factors affecting continuous mobile banking use. Their findings indicated that perceived usefulness, satisfaction, compatibility, and self-efficacy influence continuous usage intention. Based on their findings, they provided insights for banks to strengthen these factors to maintain customer trust, which leads to improved relationships with mobile banking customers.

Simovic et al. (2024) conducted a comparative study on the perceptions of mobile banking among students in Kuwait and Serbia. Their findings showed diverse perceptions of continuous mobile banking use due to cultural and developmental factors. In other words, they identified these differences as being influenced by cultural, economic, and technological factors.

Saibaba (2024) investigated the factors influencing the continued use of mobile banking apps in India, using data from a sample of 345 mobile banking app users. The findings revealed that enhancing service quality, trust, and customer satisfaction are key to ensuring the success of post-adoption behavior in mobile banking (Saibaba, 2024).

Given the research background, previous research has not taken a comprehensive approach to the topic. Therefore, this research has comprehensively reviewed the relevant literature, and i to enrich and localize the findings, conducted exploratory interviews with managers and users. This led to designing a framework identifying the key factors influencing users' continuous use of mobile banking, an area not comprehensively addressed in previous research.

Methodology

Despite growing interest from both industry and academic research in mobile banking, few studies have identified the factors influencing its continuous use. To address this gap, an exploratory study is necessary. The primary goal of the current research is to develop a framework of factors that drive the continued use of mobile banking, using a qualitative approach.

Qualitative content analysis was employed for this research. This method, also known as latent content analysis, is used to reduce and interpret data. It is commonly applied to analyze large volumes of textual data, such as interview responses, recorded observations, open-ended answers, narratives, and various media, including drawings, photos, and videos (Julien, 2008).

Content analysis aims to uncover the author or interviewee's objectives, values, culture, and desires. In other words, content analysis seeks to identify the unconscious aspects of the text and its creator (Freud, 1989). Qualitative content analysis allows researchers to interpret data subjectively while maintaining scientific rigor, ensuring objectivity through a systematic coding process. This approach looks beyond the literal content of texts to examine themes or patterns, whether explicitly stated or implied.

The movement path in qualitative content analysis involves extracting categories from the text and creating conceptual models and maps. Hence, the greater use of inductive logic in considering these characteristics has been accepted (Elo & Kingas, 2007, p. 107). Qualitative content analysis emerges where quantitative analysis reaches its limits. Thus, qualitative content analysis can be regarded as a research method that subjectively interprets textual data by systematically classifying, coding, and thematizing or identifying known patterns (Hsieh, 2005). It can be seen as an empirical, methodological, and controlled step-by-step approach that considers the studied elements (Mayring, 2000). The content analysis method is grounded in the assumption that by analyzing linguistic messages, it is possible to uncover meanings, priorities, attitudes, perceptions, and the organization of the world (Wilkinson, 2003).

Looking more closely at the qualitative content analysis method, its common steps can be identified as follows:

1. Understanding the topic, and specifying the questions that need to be answered through referring to the text.
2. Selecting parts of the text that need to be analyzed.
3. Coding, classifying, and abstracting the codes into categories and themes.
4. Analyzing the coding results.
5. Determining validity and reliability (Zhang & Wildemuth, 2009).

To collect qualitative data, exploratory interviews were conducted with experienced managers, experts, and users who were willing to participate. The number of participants was determined based on the theoretical saturation rule (Maykut & Morehouse, 1994), and data collection continued until no new information was obtained. Accordingly, 15 interviews were conducted.

Table 1.
Profile of Interviewees

Education	Majer	Experience	Interview code
master	Information system management	3	P1
master	Information Technology Management	4	P2
master	Information system management	4	P3
PhD	Information system management	5	P4
PhD	Information Technology Management	7	P5
master	Information system management	5	P6
master	Information system management	6	P7
master	Information system management	5	P8
PhD	Information Technology Management	4	P9
master	User	3	P10
Bachelor's	User	3	P11
Bachelor's	Information Technology Management	4	P12
master	User	5	P13
master	Information Technology Management	6	P14
Bachelor's	User	3	P15

(Source: Researcher's Findings)

To ensure the validity and reliability of the interview data, the Lincoln and Guba evaluation method (1985), which is equivalent to validity and reliability in quantitative research, was used (Lincoln & Guba, 1985). Thus, four criteria—credibility, confirmability, dependability, and transferability—were examined. To ensure credibility, the "member checking" method was employed. During the interviews, efforts were made to ensure that participants agreed with the researcher's understanding of what they had said and provided any additional feedback. This process validated the interviews. Additionally, by allocating sufficient time for conducting the interviews, the credibility of the research data was considerably enhanced.

To assess confirmability, the interview process was approved by several experts. To ensure consistency in coding, another expert reviewed several interview samples. Dependability was achieved by documanting the data obtained during the interviews, which included writing extensive field notes, recording all interview details, and taking notes throughout the interview process. To ensure the transferability of the research findings, sufficient information and details about the actions taken during the interview process were provided, allowing interested researchers to assess the applicability of the findings to other research settings.

Findings

Continuous use of electronic services is a complex issue, as users can easily switch to other service providers (Chea et al., 2008). For this reason, recent literature suggests that banks globally have invested approximately $115 billion to enhance customer convenience (Baabdullah et al., 2019). Given these facts, examining post-adoption behaviors is crucial for understanding the factors influencing consumers' continued intention to use mobile banking.

To achieve the main objective of the research, a comprehensive review of the literature was conducted. Subsequently, the focus group method was employed to examine and classify the main factors. The key dimensions and elements affecting the continued use of mobile banking are presented in Table 2.

Table 2.
Research Findings

Dimensions	Factors	Source
Organizational Dimension	Performance / Service Quality / System	(Kumalasari et al., 2022); (Adhikari & Gyawali, 2023); (Sari & Nikmah, 2024); (Erdoğan, 2023); (Saibaba, 2024); (Albashrawi, 2021); (Rabaa'i & ALMaati, 2021)
	Information Quality	(Issahaku et al., 2024); (Erdoğan, 2023)
	Aesthetic Design	(Issahaku et al., 2024)
	User Compatibility	(Nguyen et al., 2024)
	Human Interactive Features	(Yin & Lin, 2022)
	Confidentiality Assurance, Privacy Protection	(Bhosale et al., 2023); (Che et al., 2023)
	System Integration	(Bhosale et al., 2023)
	Authenticity	(Bhosale et al., 2023)

Dimensions	Factors	Source
	Reducing Interactive Costs	(Foroughi et al., 2019)
	Security Measures, Security of Banking Apps	(Chattopadhyay & Sripada, 2023); Oguntimilehin et al., 2022); (Ginting et al., 2023); (Khudzaeva et al., 2023); (Che et al., 2023); (Yin & Lin, 2022); (Hidayat-ur-Rehman et al., 2021); (Albashrawi, 2021); (Aashima et al., 2023)
	Ease of Use	(Asamoah et al., 2024); (Che et al., 2023); (Al-Laheebi, 2022); (Al Amin et al., 2022); (Albashrawi, 2021)
	Reputation / Organizational Credibility	(Che et al., 2023); (Garrouch, 2021)
	Customer Support	(Che et al., 2023)
	Secure Authentication	Oguntimilehin et al., 2022
	Customization, Tailoring to User Capabilities	(Albashrawi, 2021)
Environmental dimension	Cultural Context and Social Distance	(Simovic et al., 2024); (Al Amin et al., 2022)
	Economic Development Levels	(Simovic et al., 2024)
	Education and Digital Literacy Levels	Interview
	Technological Development Levels	(Simovic et al., 2024)
Individual Dimension	Perceived Service Value and User Perception	(Shaikh & Karjaluoto, 2016); (Sari & Nikmah, 2024); (Yin & Lin, 2022)
	Perceived Usefulness	(Issahaku et al., 2024); (Ginting et al., 2023); (Khudzaeva et al., 2023); (Erdoğan, 2023); (Al-Laheebi, 2022); (Hidayat-ur-Rehman et al., 2021); (Albashrawi, 2021)
	Practical and Emotional Experiences, Previous Experience	(Sharma, 2024); (Che et al., 2023); (Kumalasari et al., 2022); (Adhikari & Gyawali, 2023)
	Perceived Self-efficacy	(Asamoah et al., 2024); (Ginting et al., 2023); (Erdoğan, 2023); (Rabaa'i & ALMaati, 2021)
	User Trust	(Nguyen et al., 2024); (Sari & Nikmah, 2024); (Che et al., 2023); (Erdoğan, 2023); (Saibaba, 2024); (Al-Laheebi, 2022); (Andani & Hidayat, 2022); (Rabaa'i & ALMaati, 2021)
	User Satisfaction	(Sari & Nikmah, 2024); (Ginting et al., 2023); (Erdoğan, 2023); (Saibaba, 2024); (Yin & Lin, 2022); (Andani & Hidayat, 2022); (Rabaa'i & ALMaati, 2021); (Albashrawi, 2021)
	User Commitment	(Sari & Nikmah, 2024)
	User Anxiety Level	(Sari & Nikmah, 2024)
	Perceived User Risk	(Saibaba, 2024); (Al-Laheebi, 2022)
	Subjective Norms	(Al Amin et al., 2022)
	Individual Attitudes	(Al Amin et al., 2022)
	Individual digital resilience/flexibility, Adapting to technological changes	(Alhassan & Butler, 2021)

(Source: Researcher's Findings)

Table 2 summarizes the key findings of the study, highlighting the dimensions and factors influencing the continuous use of mobile banking services, along with the respective sources.

Discussion and Conclusion

A key trend in the financial sector is the growth and adoption of mobile banking applications, which appears to be closely associated with the increasing use of smartphones (Issahaku et al., 2024). Over time, mobile banking services have gained attraction among users and are expected to become the primary means for meeting customers' payment needs (Khoa, 2021). As a result, this study seeks to explore the factors and components that influence the continuous use of mobile banking by users.

The study's findings categorize these components into three main dimensions: organizational, environmental, and individual. Within the organizational dimension, the components include service performance and quality, information quality, aesthetic design, user compatibility, consideration of human interaction features, ensuring confidentiality and privacy, reducing interaction costs, implementing security measures, ease of use, organizational credibility (bank), and customizing mobile banking apps to suit user capabilities.

Garrouch (2021) highlights that a company's reputation influences the perceived security of its mobile app, with trust playing a critical role in the relationship between organizational reputation and customer support in shaping users' perceptions of mobile banking apps. Furthermore, organizational reputation and customer support significantly affect customers' assessments of privacy assurances, security features, and information quality within mobile banking apps. This suggests that a strong reputation and customer support from banks not only serve as direct indicators of reliability but also as indirect indicators of the perceived reliability and information quality of their apps (Che et al., 2023).

Consumers' previous experiences can provide valuable insights for policymakers in both the public and private sectors, as well as for industry leaders, to better understand trust-related issues in mobile banking (Basu et al., 2024). The ease of use of mobile banking services may be influenced by factors such as the user-friendly interface design, the style of information presentation, and the overall ease of interaction with the app (Jebarajakirthy & Shankar, 2021; Lee & Chung, 2009). Moreover, digital financial services are known to reduce transaction costs and enhance individuals' access to social communications (Lyons et al., 2019; Alhassan & Butler, 2021). According to expert interviews, lowering interaction costs improves customer experience and can serve as an incentive for frequent, small transactions, which ultimately encourages more engagement with banking apps. Research findings suggest that mobile banking technology benefits customers by reducing operational costs and enhancing the quality of banking services through features like ease of use, increased interaction, lower fees, instant connectivity, immediate access to information, and optimized time efficiency (Foroughi et al., 2019).

Given that cybersecurity threats on mobile platforms can impact customer experiences (Basu et al., 2024), strengthening the security of mobile banking apps is of great importance. According to interviewees, incorporating app features for users with physical limitations and capabilities can lead to user commitment and continuous usage.

Environmental factors include cultural, economic, and technological contexts that affect the continuous use of mobile banking. In societies with a welcoming attitude towards new technologies and a culture that encourages the adoption and use of innovation, mobile banking is more likely to be used consistently. Additionally, since digital security and privacy protection are crucial for individuals, using mobile banking services might be limited unless banks provide strong security measures. In other words, the perceived level of security can play a significant role in the continuous use of mobile banking (Garrouch, 2021).

Therefore, in societies where digital education and IT skills are part of public educational programs, people are more familiar with mobile banking services and use them more easily. For example, societies that have integrated technology and innovation into their daily lives tend to use mobile banking services more. In an environment where individuals have a positive attitude towards new technologies and have accepted them as part of modern life, they are expected to continue using banking apps. It is noteworthy that with access to high-speed internet and advanced mobile networks, mobile banking becomes easier to use, and continuous usage is anticipated. In communities with weaker infrastructure, unstable connectivity and limited access to digital services may negatively impact usage. Additionally, generational differences in technology adoption should not be overlooked, as younger generations accustomed to new technologies are likely to use mobile banking more. In comparison, older generations may adhere more to traditional methods. Consider the following part from one of the interviews in this regard:

> "However, using mobile banking requires a basic familiarity with technology. If individuals are not familiar with how to use smartphones or applications, even if these services are very efficient."

The third dimension, titled individual characteristics of users, refers to components such as perceived service value, perceived usefulness, previous practical and emotional experiences, perceived self-efficacy, user trust, user satisfaction, user commitment, user anxiety level, perceived user risk, subjective norms, attitudes, and individual digital resilience/flexibility. According to the Expectancy-Disconfirmation Theory, satisfaction directly influences the continuation of usage intention. User satisfaction, perceived usefulness, and perceived self-efficacy significantly impact the intention of continued use. The role of trust in customer relationships is also emphasized, with findings indicating that customers have greater concerns about security and privacy when using mobile banking services on smartphones (Al-Laheebi, 2022). Individual digital resilience refers to the ability of individuals to adapt, learn, and cope with digital challenges and technological changes. This concept includes technical skills, cybersecurity awareness, and the ability to overcome issues that may arise from digital technologies such as mobile banking. Mobile banking continually updates due to advancements in features and security. Individuals with digital resilience adapt more quickly to these changes and continue to use these services, helping them resolve issues calmly rather than abandoning mobile banking. These individuals find digital solutions to new challenges easily and do not stop using the technology. In this regard, consider the following sentence from one of

the interviews:

> Definitely. If someone cannot cope with the problems, they will soon abandon mobile banking and prefer to return to traditional methods. But someone who is more resilient will still try to use these services even if challenges arise such as internet outages or transaction errors.

Thus, digital resilience is more than a skill for coping with technology; it affects continued service use after experiencing fraud (Alhassan & Butler, 2021).

Suggestions for Future Research and Practical Applications

1. *Exploring Emerging Technologies*: Future research should explore the impact of emerging technologies such as blockchain and artificial intelligence on mobile banking applications. Understanding how these technologies influence security, user experience, and service efficiency could provide valuable insights for enhancing mobile banking platforms.
2. *Cross-Cultural Studies*: Conducting studies in diverse contexts to examine how cultural differences affect mobile banking adoption and its continuous use. Comparative analyses of different regions or countries could highlight specific cultural factors influencing user behavior and preferences.
3. *Longitudinal Studies*: Implementing longitudinal studies to track user behavior and satisfaction changes over time. This approach can help identify long-term trends and evolving user needs, offering more profound insights into the factors driving sustained mobile banking service usage.
4. *User Experience Optimization*: Future research can focus on optimizing user experience through personalized and adaptive interfaces. Investigating how user customization and adaptive features impact user satisfaction and engagement could lead to more user-friendly mobile banking applications.
5. *Security and Privacy Enhancements*: Given the critical importance of security and privacy, future research can focus on developing advanced security measures and privacy protection strategies. Evaluating the effectiveness of these measures in preventing cyber threats and ensuring user trust is essential.
6. *Impact of Regulatory Changes*: Examining how changes in financial regulations and data protection laws affect mobile banking adoption and usage. Understanding the implications of regulatory changes on user behavior and service delivery can help banks adapt to evolving legal requirements.
7. *Integration of Financial Literacy Programs*: Investigating the impact of integrating financial literacy programs into mobile banking applications. Assessing how educational content affects user decision-making and financial behavior could enhance the overall value of mobile banking services.
8. *Customer Support and Interaction*: Exploring innovative approaches to customer support within mobile banking apps, such as AI-driven chatbots or virtual assistants to understand their effect on user satisfaction, problem resolution, and improved customer service.

9. *User Segmentation and Personalization*: Conducting studies on user segmentation to identify different user groups and their specific needs can enable tailored mobile banking services, resulting in more effective marketing strategies and higher user satisfaction.
10. *Assessing Digital Inclusion*: Evaluating the role of mobile banking in promoting digital inclusion, particularly in underserved or rural areas. Researching how mobile banking services can bridge gaps in financial access and literacy can contribute to more equitable financial systems.
11. *Improving users' digital literacy*: Banks can take the following initiatives to increase their users' digital literacy: conducting in-person and online workshops and courses for users to learn how to use banking apps, producing simple and accessible educational content, providing short videos, infographics, and text guides on banking apps and social media to teach basic concepts, focusing on specific groups such as older people or those who are less familiar with technology.
12. *Improving app user experience*: Banks can improve their user experience by simplifying app design (e.g., developing a simple and intuitive user interface that can be easily used by people of all levels of digital literacy), increasing security and trust (e.g., providing transparent security features such as two-factor authentication and security alerts) to help users feel more confident), and adding in-app educational features such as interactive guides or step-by-step guidance on first use.
13. *Expanding public awareness and culture*: Banks can increase public awareness through the following means: information campaigns (using media, SMS, and social networks to inform about the benefits of mobile banking and how to use it properly), encouraging early use experience, and offering incentives such as prizes or discounts on services to those who use the application for the first time.
14. *Continuous evaluation and monitoring of services*: Banks can assess their services through conducting periodic surveys (continuously receiving user feedback and improving applications and services based on it.) and providing transparent and annual reports on the performance of online banking applications and services to gain public trust.

These suggestions aim to address current gaps and explore new opportunities for enhancing mobile banking applications and user experiences.

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