

THE MEDIATING EFFECT OF DIGITAL LITERACY ON TRUST AND E-BANKING ADOPTION IN EMERGING MARKETS

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ABSTRACT

This study examines the mediating effect of digital literacy on the relationship between trust and e-banking adoption in emerging markets. Despite the growing prevalence of digital technologies, e-banking adoption in emerging economies remains relatively low, largely due to concerns around trust in digital platforms and inadequate digital literacy. This study proposes a model that integrates concepts from the Technology Acceptance Model (TAM), Trust Theory, and Digital Literacy Theory to better understand how trust in e-banking platforms influences adoption behaviors, with digital literacy serving as a key mediator. A quantitative research design is employed, utilizing an online survey to collect data from a sample of 500 respondents in selected emerging markets. The study hypothesizes that trust positively influences digital literacy, which, in turn, positively impacts e-banking adoption. Furthermore, digital literacy is expected to mediate the relationship between trust and e-banking adoption. The data will be analyzed using Structural Equation Modeling (SEM) to test the proposed relationships. This research aims to provide insights into the mechanisms that drive e-banking adoption in regions with lower digital literacy, offering practical recommendations for financial institutions to improve trust and enhance the adoption of digital banking services. The findings will contribute to the academic discourse on technology adoption and digital literacy, while also informing policy and business strategies in emerging markets.



1. INTRODUCTION

The advent of digital banking services has revolutionized the financial industry, particularly in emerging markets. As more consumers gain access to the internet and mobile technology, banking services are increasingly being delivered through digital platforms. This shift has provided a convenient and cost-effective alternative to traditional banking, enabling users to perform financial transactions remotely. However, despite the potential benefits, the adoption of e-banking services in emerging markets remains uneven. While some consumers readily embrace digital banking, others are reluctant or unable to do so due to various barriers, including a lack of trust in the security of online platforms and insufficient digital literacy (Gerrard & Cunningham, 2003).

Digital banking, or e-banking, encompasses a broad range of financial services, including online banking, mobile banking, and digital wallets, which allow users to perform transactions without the need for physical interaction with a bank. In emerging economies, the uptake of e-banking services has been slower compared to developed markets, primarily due to factors such as low trust in the digital infrastructure, cybersecurity concerns, and limited access to

digital skills training (Oliveira et al., 2014). As the digital divide continues to persist, it is crucial to understand the factors that mediate this adoption process, one of the most important being digital literacy.

1.1. THE ROLE OF TRUST IN E-BANKING ADOPTION

Trust is widely regarded as one of the most significant factors influencing consumers' decisions to adopt new technologies, particularly in the domain of e-banking (Suh & Han, 2002). Trust in e-banking refers to the confidence that consumers place in the security, privacy, and reliability of the services provided by digital platforms. Consumers' trust in e-banking systems is critical because, without trust, they may hesitate to share sensitive personal and financial information online, even if the services are efficient and convenient (Gefen, Karahanna, & Straub, 2003).

Trust in e-banking is shaped by various factors, such as perceived security, the reputation of the financial institution, and the overall transparency of the digital services. In many emerging markets, concerns over fraud, identity theft, and the security of online transactions significantly undermine consumers' willingness to adopt e-banking services (Pikkarainen et al., 2004). Research has shown that trust is a precursor to technology adoption, and consumers with a high level of trust in digital platforms are more likely to embrace e-banking services (Liao & Lu, 2008). Therefore, understanding how trust can be fostered in the context of emerging markets is crucial for accelerating the adoption of e-banking.

1.2. THE ROLE OF DIGITAL LITERACY IN E-BANKING ADOPTION

Digital literacy, defined as the ability to effectively and critically use digital tools and platforms, is an essential factor for the successful adoption of e-banking services. It includes skills such as navigating online platforms, understanding digital security protocols, and using internet-enabled financial services (Van Dijk, 2005). In emerging markets, digital literacy is often limited by factors such as low levels of education, limited access to technology, and a lack of familiarity with digital interfaces (Helsper, 2011). As a result, individuals with lower levels of digital literacy are less likely to trust or adopt e-banking services, even if they recognize the benefits of such platforms.

Digital literacy has the potential to serve as a mediator in the relationship between trust and e-banking adoption. Individuals with higher digital literacy are more likely to understand the benefits and risks associated with e-banking and, thus, develop a higher level of trust in the systems they use. Moreover, digital literacy can empower consumers to confidently engage with digital platforms, improving their perception of the security and reliability of e-banking services. As a result, digital literacy may enhance the overall trust in e-banking and, in turn, facilitate its adoption in emerging markets (Venkatesh et al., 2012).

1.3. THE MEDIATING ROLE OF DIGITAL LITERACY

In the context of emerging markets, where both digital literacy and trust are often barriers to e-banking adoption, understanding the role of digital literacy as a mediator is vital. This paper aims to explore the mediating effect of digital literacy on the relationship between trust and e-banking adoption. Existing research on e-banking adoption has often treated trust and digital literacy as separate variables. However, little attention has been paid to how these two variables interact and influence each other. Trust may play a crucial role in motivating individuals to adopt e-banking services, but its effect may be significantly diminished if users lack the necessary digital skills to effectively interact with these platforms. Conversely, individuals with higher digital literacy may have a more favorable view of the security features of e-banking systems, thus enhancing their trust in the services. Digital literacy, therefore, may not only directly affect e-banking adoption but also act as a mediator that strengthens the trust-adoption relationship.

2. LITERATURE REVIEW

Introduction to E-Banking in Emerging Markets

E-banking has significantly transformed the banking landscape across the world, particularly in emerging markets where traditional banking infrastructure has often struggled to meet the needs of a growing, diverse, and geographically dispersed population. Emerging markets, by definition, face unique challenges such as economic instability, limited access to financial services, and lower levels of financial inclusion (Abrazhevich, 2004). In these regions, e-banking is

viewed as a key tool for enhancing financial access, improving service delivery, and fostering economic growth (Hernandez, 2019).

The adoption of e-banking has been widely researched, especially in developed countries, with a focus on factors like convenience, trust, cost, and service quality. However, for emerging markets, the literature has expanded to include factors such as technological infrastructure, digital literacy, and regulatory challenges (Gerrard & Cunningham, 2003).

Despite the substantial increase in mobile and internet usage, e-banking adoption rates in emerging markets remain low compared to developed countries, often attributed to low levels of trust in digital platforms, security concerns, and lack of digital literacy (Chauhan et al., 2021). These factors necessitate a deeper exploration of how digital literacy influences trust and adoption, especially in regions with limited experience with digital banking services.

2.1. TRUST IN E-BANKING

The concept of trust plays a pivotal role in e-banking adoption. In emerging markets, trust in the technology and the financial institution offering e-banking services is critical for ensuring that consumers feel comfortable using online platforms (Gefen et al., 2003). Trust in e-banking can be broken down into two key dimensions: trust in the institution (i.e., the bank) and trust in the technology (i.e., the e-banking system). A lack of trust in either of these dimensions can prevent consumers from adopting e-banking services.

Many studies have explored how security concerns, privacy issues, and fear of financial fraud contribute to low levels of trust (Kim et al., 2010). Emerging markets often have weak regulatory frameworks and limited consumer protection laws, which exacerbate trust deficits in digital platforms (Liu et al., 2020). For example, in countries like Nigeria and India, where banking fraud is a persistent issue, consumers are often hesitant to trust digital banking systems due to the perceived risk of online scams (Amin et al., 2014).

While institutional trust is important, trust in the technology itself is also a critical barrier to adoption. Users need to feel that the e-banking system is secure, transparent, and reliable. Trust-enhancing strategies, such as clear security measures, encryption technologies, and third-party certifications, have been shown to improve consumer confidence and lead to higher adoption rates in emerging markets (Alalwan et al., 2020).

2.2. DIGITAL LITERACY AS A MEDIATING FACTOR

Digital literacy is increasingly being recognized as a vital factor influencing the adoption of e-banking in emerging markets. Digital literacy goes beyond the mere ability to operate digital devices; it encompasses critical thinking skills, the ability to evaluate digital content, and the understanding of digital risks (Van Dijk, 2021). In the context of e-banking, digital literacy refers to users' ability to navigate online banking platforms, assess security protocols, and perform transactions safely.

Studies have found that low digital literacy is a significant barrier to e-banking adoption in emerging markets. A study by Bada et al. (2021) found that individuals with lower digital literacy levels were more likely to perceive e-banking as complex and risky, leading to a lack of engagement with digital financial services. In contrast, digitally literate users tend to exhibit higher levels of confidence and trust in using online platforms, as they are better equipped to navigate potential risks associated with digital banking (Nguyen & Tuan, 2022).

Moreover, digital literacy serves as a mediator between trust and e-banking adoption. When users possess higher digital literacy, they are more likely to trust the technology and the financial institutions offering these services, because they understand the measures in place to protect their data and financial transactions (Gounaris et al., 2019). This increased trust in turn enhances the likelihood of adoption, particularly in markets where digital technologies are still viewed with skepticism.

2.3. THE MEDIATING EFFECT OF DIGITAL LITERACY ON TRUST AND E-BANKING ADOPTION

The relationship between trust, digital literacy, and e-banking adoption is complex, especially in emerging markets. Digital literacy does not only directly influence trust and adoption but can also serve as a mediating factor. Several studies have proposed that digital literacy may act as a bridge between trust and adoption, particularly in markets where users may not fully understand the benefits and risks associated with e-banking.

In their study of financial technology adoption in developing economies, Lwin et al. (2022) found that digital literacy helped alleviate concerns regarding online fraud and data privacy, enabling individuals to develop trust in e-banking platforms. This trust, in turn, positively influenced adoption rates. Similarly, Nguyen et al. (2021) observed that, in the context of Vietnam, consumers with higher levels of digital literacy were more likely to view e-banking as secure and user-friendly, which significantly increased adoption rates.

Recent studies, including those by Alalwan et al. (2020) and Liu et al. (2020), also suggest that digital literacy training programs are essential for increasing the adoption of e-banking in emerging markets. These programs not only improve users' understanding of how to use digital banking systems but also increase their confidence in the security and reliability of the platforms, addressing trust concerns that might otherwise prevent adoption.

2.4. FACTORS AFFECTING DIGITAL LITERACY AND TRUST IN E-BANKING

Several factors contribute to the level of digital literacy and trust in e-banking services in emerging markets. The socioeconomic status, age, and education level of consumers are significant determinants of digital literacy (Lwin et al., 2022). Research by Zhao et al. (2020) showed that older adults and individuals with lower education levels tend to have lower levels of digital literacy, which hinders their adoption of e-banking services. Therefore, targeted training programs that cater to these demographic groups are critical for improving digital literacy and, by extension, boosting e-banking adoption.

Another important factor is cultural attitudes towards technology and banking institutions. In many emerging markets, there is a historical preference for face-to-face interactions with banks, which limits the willingness of consumers to trust and adopt digital banking platforms (Morris & Venkatesh, 2020). Cultural attitudes, combined with lower digital literacy, create an environment in which trust in digital banking services is not easily established. Understanding these cultural nuances is vital for policy makers and financial institutions to design trust-building strategies that are contextually appropriate.

2.5. DIGITAL LITERACY AND TRUST: A CRITICAL INSIGHT INTO EMERGING MARKETS

Recent studies highlight the need for a holistic approach to enhancing digital literacy and trust in emerging markets. As digital literacy increases, so does the ability to assess the trustworthiness of e-banking systems. Conversely, trust in these systems is crucial for encouraging adoption, and without proper digital literacy, trust is often misplaced, leading to security concerns and reluctance to engage with digital platforms (Hinson & Abor, 2021).

Digital literacy should therefore not only focus on technical skills but also on cybersecurity awareness and critical evaluation of digital platforms. Financial institutions can improve trust by incorporating security features that are easy for consumers to understand, such as multi-factor authentication and transaction alerts, as these features reduce perceived risks and increase trust (Alalwan et al., 2020).

3. THEORETICAL FRAMEWORK

The theoretical framework for this study integrates concepts from Technology Acceptance Model (TAM), Trust Theory, and Digital Literacy Theory to explore the mediating role of digital literacy in shaping the relationship between trust and e-banking adoption in emerging markets.

3.1. TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), is one of the most widely used frameworks for studying technology adoption. TAM suggests that two key factors influence the intention to use technology: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). In the context of e-banking, PEOU refers to the ease with which users can interact with digital banking platforms, while PU refers to the perceived benefits of using e-banking services, such as convenience and cost-saving.

While TAM has been widely used to study technology adoption, it does not adequately account for the impact of trust or digital literacy, both of which are critical for e-banking adoption in emerging markets.

3.2. TRUST THEORY

Trust Theory focuses on the role of trust in the acceptance of technology. Mayer et al. (1995) proposed that trust is based on three key elements: competence, benevolence, and integrity. In the context of e-banking, trust refers to users' confidence in the security, privacy, and reliability of the digital banking platform. Research indicates that trust is essential for adoption, especially in markets where people may have limited experience with digital technology (Gefen et al., 2003).

Trust in e-banking can be further divided into:

- Institutional Trust: Trust in the financial institution offering e-banking services.
- Technological Trust: Trust in the technological platform used to offer the service (e.g., the security of the website, encryption protocols).

3.3. DIGITAL LITERACY THEORY

Digital Literacy Theory suggests that digital literacy is the capability to effectively and critically navigate and create information using a range of digital technologies (Van Dijk, 2021). It includes skills related to understanding digital systems, assessing online content, and managing digital risks. In emerging markets, the level of digital literacy influences how individuals perceive and engage with e-banking platforms.

In this study, digital literacy is conceptualized as a mediating variable that influences both trust and e-banking adoption. Higher levels of digital literacy are expected to increase consumers' trust in e-banking platforms, which in turn leads to greater adoption.

4. HYPOTHESES

Based on the proposed model, the following hypotheses are formulated:

H1: There is a positive relationship between trust in e-banking (institutional and technological trust) and digital literacy.

H2: Digital literacy has a positive effect on the adoption of e-banking in emerging markets.

H3: There is a positive relationship between trust in e-banking and e-banking adoption.

H4: Digital literacy mediates the relationship between trust in e-banking (institutional and technological trust) and e-banking adoption.

CONFLICT OF INTERESTS

None.

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REFERENCES

- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly*, 27(1), 51-90.
- Gerrard, P., & Cunningham, J. B. (2003). The Diffusion of Internet Banking Among Singapore Consumers. *International Journal of Bank Marketing*, 21(1), 16-28.
- Helsper, E. J. (2011). A Correspondence Analysis of the Relationship between Digital Skills and Social Inclusion. *Information, Communication & Society*, 14(1), 102-122.
- Liao, C., & Lu, H. (2008). An Integrated Model for Online Buyer Behavior. *Journal of Electronic Commerce Research*, 9(4), 297-304.
- Oliveira, T., Faria, M., Thomas, M., & Popovic, A. (2014). The Influence of Adoption Determinants on E-Banking Services. *Computers in Human Behavior*, 41, 298-311.

- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). Consumer Acceptance of Online Banking: An Extension of the Technology Acceptance Model. *Internet Research*, 14(3), 224-235.
- Suh, B., & Han, I. (2002). Effect of Trust on Customer Acceptance of Internet Banking. *Electronic Commerce Research and Applications*, 1(3-4), 247-263.
- Van Dijk, J. (2005). *The Deepening Divide: Inequality in the Information Society*. Sage Publications.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2012). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478.
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2020). The Role of Trust and Perceived Risk in E-Banking Adoption in Emerging Markets. *International Journal of Bank Marketing*, 38(3), 547-564.
- Amin, H., Isa, Z. M., & Lada, S. (2014). E-banking Adoption in Malaysia: The Case of Internet Banking. *International Journal of Bank Marketing*, 32(5), 404-423.
- Bada, A. O., Shittu, A. R., & Alabi, O. A. (2021). Digital Literacy and Trust as Predictors of E-Banking Adoption in Emerging Markets. *Computers in Human Behavior*, 115, 106614.
- Chauhan, R., Duhan, S., & Saini, G. (2021). Understanding the Challenges and Drivers of E-Banking Adoption in Emerging Economies. *Journal of Financial Services Marketing*, 26(3), 163-179.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly*, 27(1), 51-90.
- Gerrard, P., & Cunningham, J. B. (2003). The Diffusion of Internet Banking Among Singapore Consumers. *International Journal of Bank Marketing*, 21(1), 16-28.
- Gounaris, S. P., Dimitriadis, S., & Stathakopoulos, V. (2019). Antecedents and Consequences of Trust in E-banking: A Customer Perspective. *Journal of Financial Services Marketing*, 24(2), 91-105.
- Hinson, R. E., & Abor, J. Y. (2021). Trust, Technology, and the Adoption of E-Banking in Ghana. *Journal of Financial Services Marketing*, 26(2), 113-125.