

Review Article

INTERNET BANKING IN UGANDA

ABSTRACT

Internet banking (IB) has attracted a great deal of academic attention. This article reviews the literature on IB through the lenses of nine adoption theories. This review suggests that IB adoption is a complex and multifaceted process; joint consideration of customers' personal, social, psychological, utilitarian, and behavioral aspects is vital; managers and system developers should undertake a customer-centric approach focusing on managing belief formation rather than directly influencing behavior. However, IB research is in a questionable state, and is far from agreement regarding the approaches and conceptualizations used to understand the beliefs that truly influence IB behavior. There is limited research dealing with the role of interventions that can assist managers in making effective decisions to speed the adoption process. An understanding of customer's cognitive, emotional and contextual processes is more important than adoption itself and will ultimately result in the intended behavior.

Keywords: Theorizing, Internet Banking, Internet Adoption, Banks, Uganda

1. INTRODUCTION

This study also examines the legal and institutional framework for electronic banking in Uganda. It highlights the advantages and disadvantages of electronic banking and concludes that despite the disadvantages, it has been embraced by the banking class and has improved the banking terrain in Uganda [1]. Electronic banking was introduced in commercial banks in Uganda as early as 1997 [2]. The study of [3], has established a significant positive relationship between electronic banking and customer satisfaction. Internet banking in Uganda has been embraced by several banks, providing customers with the convenience of conducting financial transactions online [4]. Stanbic Bank offers online banking services that allow customers to access real-time balances and statements, make payments, transfers, pay taxes, utility bills like Umeme, buy airtime, open another account and manage their money without going into a branch. I&M Bank's internet banking platform lets customers access their accounts 24/7 from wherever they happen to be in the World. It offers services like remitting funds to loved ones and business associates without hassles, making requests like bankers cheques, cheque books, standing instructions etc. The Bank of Africa provides internet banking services where customers can log in to their Internet Banking account by entering their username and password [5]. Absa's internet banking service allows customers to view their account information (current, savings, loan, and credit card accounts) and pay utility bills (UMEME, YAKA, NWSC, DStv/GOtv).

Internet banking in Uganda has seen significant growth over the past few years. The latest statistics from the Bank of Uganda (BOU) indicate that growth in electronic payments, comprising mobile money and Real Time Gross Settlement (RTGS) transfers, recovered strongly in 2020 and 2021, at 18% and 26% respectively [6]. This recovery is due to the impact of restrictions during COVID-19 related lockdowns as well as legal/regulatory reforms aimed at reducing the dependence on cash in the Ugandan economy. In 2019, analysts put the adoption of e-banking by the banking system at a meager 39 per cent [7]. However, the adoption grew way more than that. For example, looking at agent banking, by February 2020 transactions by agents had grown to Shs 1.6 trillion from Shs 457 billion in December 2018 [8]. The Bank of Uganda data indicates that commercial banks accounted for 58% of the mobile transactions (US\$93 trillion or US\$26.7 billion), a growth from zero in 2010 and US\$12.5 billion (US\$43 trillion) in 2016. More than half of Uganda's adult population now has access to an account at a formal financial institution. This is almost twice as many as in 2009. The entry and fast penetration of mobile money is the

main reason for the increase, having allowed 8 million Ugandans to conduct financial transactions [9]. These statistics highlight the rapid growth and increasing importance of internet banking in Uganda's financial landscape.

Banks in Uganda have invested heavily in digital infrastructure to provide secure and reliable internet banking services. They offer a wide range of online services such as funds transfer, bill payments, account balance checks, and loan applications to cater to the diverse needs of their customers. However, challenges such as low digital literacy levels and cyber security concerns need to be addressed to further boost its adoption. Internet banking has been gaining traction in Uganda, with studies highlighting its benefits such as convenience and efficiency. However, challenges such as low digital literacy levels and cyber security concerns need to be addressed to further boost its adoption.

2. THE CONCEPT OF INTERNET BANKING

Internet banking, also known as online banking or e-banking, is a system that allows customers of a financial institution to conduct financial transactions remotely using the institution's online banking software [10]. This concept has revolutionized the banking sector by providing customers with a convenient and efficient way to manage their finances. The concept of internet banking emerged in the early 1980s when four of the national banks in the U.S. (Citibank, Chase Manhattan, Chemical and Manufacturers Hanover) offered home banking services [11]. At first, these services were based on proprietary systems such as videotex. However, with the advent of the internet in the 1990s, banks began to develop web-based services that allowed customers to access their accounts and perform transactions online. Internet banking offers a wide range of services. These typically include checking account balances, transferring funds between accounts, paying bills, applying for loans or credit cards, and setting up standing orders or direct debits. Some banks also offer more advanced services such as personal financial management tools, share trading facilities, and foreign exchange services.

One of the main advantages of internet banking is convenience [12]. Customers can access their accounts and perform transactions at any time and from anywhere, as long as they have an internet connection. This eliminates the need to visit a physical branch during specific hours. Internet banking also provides customers with real-time access to their account information, allowing them to manage their finances more effectively. Another advantage of internet banking is cost efficiency [13]. By reducing the need for physical branches and staff, internet banking can help banks to lower their operating costs. These savings can then be passed on to customers in the form of lower fees or higher interest rates. Despite these advantages, there are also challenges associated with internet banking. One of the main challenges is security [14]. Given the sensitive nature of financial information and transactions, banks need to implement robust security measures to protect against threats such as hacking, phishing, and identity theft. Customers also need to be vigilant and take precautions such as keeping their login details confidential and ensuring that their computer or mobile device is secure. Another challenge is digital literacy [15]. Not all customers are comfortable using digital technology or have access to a reliable internet connection. Banks need to provide support and education to help these customers transition to internet banking. Internet banking is a powerful tool that can provide customers with convenience and efficiency while helping banks to reduce costs. However, it also presents challenges that need to be addressed. As technology continues to evolve, it will be interesting to see how the concept of internet banking continues to develop in the future.

3. THEORIES EXPLAINING INTERNET BANKING

The advent of the internet has revolutionized many sectors, including the banking industry. In Uganda, the adoption of internet banking has been a topic of interest for both academia and industry. The banking

sector in Uganda has seen significant changes over the past few decades. The introduction of digital banking platforms has transformed the way customers interact with their banks. Internet banking, in particular, has provided customers with a convenient and efficient way to manage their finances. However, despite its advantages, the adoption rate of internet banking in Uganda remains relatively low compared to other countries. With the integration of various theoretical frameworks, there's provision of a comprehensive view of the various factors that can influence a user's decision to adopt a new technology.

The study adopted the Task-Technology Fit (TTF) theory is a model that postulates that the match between task requirements and technology characteristics predicts the utilization of the technology and individuals' performance. It was developed by Goodhue & Thompson in 1995 to explain the utilization of technology by examining the fit of technology to users' tasks/requirements [16]. TTF was the first theory that aimed to explore the post-adoption aspect of technology utilization, unlike other prior research, which had mainly focused on the antecedents of use and intention. The theory provides a means of quantifying the effectiveness of technology in a system by assessing the relationship between the technology and the tasks the technology aims to support [17]. In essence, task-technology fit is about the interdependence between an individual (a technology user), technology (data, hardware, software tools and the services they provide) and task (activity carried out by individuals to produce the required output) characteristics. It argues that information system use and performance benefits are attained when an information system is well-suited to the tasks that must be performed. The theory postulates that the match between task requirements and technology characteristics predicts the utilization of the technology and individuals' performance. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System(BBS Connect), the TTF theory can provide valuable insights. Internet banking is a technology that allows customers to perform banking tasks online [18]. These tasks can range from checking account balances and transferring funds to paying bills and applying for loans. The fit between these tasks and the features provided by BBS Connect can determine the system's usefulness and ease of use for the customers. For instance, if a customer needs to transfer funds to another account, the system should provide an easy-to-use interface for this task. The system should also ensure the security of the transaction, as this is a critical requirement for any banking task. If BBS Connect can meet these requirements effectively, it can be said to have a good fit with the task. However, achieving a good task-technology fit is not always straightforward. There can be various challenges in this process. For example, customers may have different levels of digital literacy, which can affect their ability to use internet banking systems. Also, there may be technical issues such as slow internet speeds or system downtimes that can hinder the performance of online banking tasks. To address these challenges, it is important for Banks in Uganda to continuously monitor and improve the features of BBS Connect. This can involve conducting regular user feedback surveys to understand the customers' needs and difficulties. The bank can also invest in improving the system's infrastructure to ensure its reliability and speed. The TTF theory provides a useful framework for understanding and improving internet banking in Uganda. By focusing on the fit between banking tasks and technology features, it can help enhance the user experience and increase the adoption rate of internet banking in the country.

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a model that aims to explain user intentions to use an information system and subsequent usage behavior. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, the UTAUT model can provide valuable insights. The theory was developed through a review and consolidation of the constructs of eight models that earlier research had employed to explain information systems usage behaviour. Subsequent validation by [19] of UTAUT in a longitudinal study found it to account for 70% of the variance in Behavioural Intention to Use (BI) and about 50% in actual use. The UTAUT model posits four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. These constructs can be applied to understand the acceptance and use of BBS Connect in Uganda. *Performance expectancy* refers to the degree to which a user believes that using

the system will help them attain gains in job performance [20]. In the context of BBS Connect, this could refer to how effectively the system allows users to perform banking tasks. If users believe that BBS Connect enables them to manage their finances more efficiently than traditional banking methods, they are more likely to use it. *Effort expectancy* is the degree of ease associated with the use of the system[21]. For BBS Connect, this could refer to how user-friendly the system is. If users find BBS Connect easy to navigate and understand, they are more likely to use it. *Social influence* is the degree to which a user perceives that important others believe they should use the new system[22]. In Uganda, where word-of-mouth recommendations can be influential, if users hear positive reviews about BBS Connect from their peers, they are more likely to try it out. Finally, *facilitating conditions* refer to the degree to which a user believes that an organizational and technical infrastructure exists to support the use of the system [23]. For BBS Connect, this could refer to factors such as reliable internet connectivity and customer support from the Bank of Uganda. The first three are direct determinants of usage intention and behavior, and the fourth is a direct determinant of user behavior. Gender, age, experience, and voluntariness of use are posited to moderate the impact of the four key constructs on usage intention and behavior. Applying the UTAUT model can help us understand why some users in Uganda adopt internet banking through BBS Connect while others do not[24]. By addressing factors related to performance expectancy, effort expectancy, social influence, and facilitating conditions, we can increase the acceptance and use of internet banking in Uganda.

The Initial Trust Model (ITM) is a theoretical framework that addresses factors and processes that enable two parties to form relatively high trust initially. It proposes that trust forms initially by means of social categorization processes, institution-based trust factors, and individual disposition to trust. In the context of organizational relationships, the most critical time frame for participants to develop trust is at the beginning of their relationship[25]. The model helps explain the paradoxical finding of high initial trust levels in new organizational relationships, specifically the Bank of Uganda's Internet Banking System, BBS Connect, and the ITM can provide valuable insights. ITM can be used to understand how users form initial trust in a new banking system [26]. Factors such as the reputation of the bank, security measures in place, and user's own propensity to trust can influence the formation of initial trust. This initial trust can then influence the user's intention to use the system and their subsequent usage behavior. Trust is a critical factor in the adoption and use of internet banking. Users need to trust the system before they are willing to perform sensitive tasks such as transferring funds or checking account balances online. The ITM suggests that this initial trust can be influenced by three main factors: social categorization processes, institution-based trust factors, and individual disposition to trust [27]. Social categorization processes refer to how users categorize the system based on their prior experiences and knowledge. For instance, if users have had positive experiences with other digital services provided by the Bank of Uganda, they may categorize BBS Connect as trustworthy. Institution-based trust factors refer to structural assurances that can enhance trust. In the context of BBS Connect, this could include security measures such as encryption and two-factor authentication, as well as legal and regulatory protections for online banking users in Uganda [28]. Individual disposition to trust refers to a user's general propensity to trust others. Some users may be naturally more trusting than others, which can influence their initial trust in BBS Connect. Understanding and addressing these factors can help enhance initial trust in BBS Connect, thereby promoting its adoption and use among banking customers in Uganda. By ensuring that BBS Connect is categorized positively, providing strong institutional assurances, and catering to individual dispositions towards trust, the Bank of Uganda can foster a trustworthy environment for internet banking.

The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it[29]. The two main factors are perceived usefulness (PU) and perceived ease-of-use (PEOU). In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, the TAM can provide valuable insights. *Perceived Usefulness (PU)*: This refers to the degree to which a

user believes that using BBS Connect would enhance their banking tasks. If users find that BBS Connect allows them to perform banking tasks more efficiently and effectively than traditional banking methods, they are likely to perceive it as useful. For instance, if a user finds that they can transfer funds or check their account balance more quickly and easily through BBS Connect than by visiting a physical branch, they may perceive BBS Connect as useful. *Perceived Ease-of-Use (PEOU)*: This refers to the degree to which a user believes that using BBS Connect would be free from effort. If users find BBS Connect easy to navigate and understand, they are likely to perceive it as easy to use. For instance, if the user interface of BBS Connect is intuitive and the steps to perform various banking tasks are straightforward, users may perceive it as easy to use. These two factors PU and PEOU determine the user's attitude towards using BBS Connect. If users perceive BBS Connect as useful and easy to use, they are likely to have a positive attitude towards it. This positive attitude can then influence their behavioral intention to use BBS Connect, which in turn influences their actual usage behavior. The TAM provides a useful framework for understanding and enhancing the acceptance and use of internet banking in Uganda. By focusing on improving the perceived usefulness and ease-of-use of BBS Connect, the Bank of Uganda can promote its adoption among its customers.

The Theory of Reasoned Action (TRA) is a model for predicting people's behavior. It was developed by Martin Fishbein & Icek Ajzen in 1975. The theory posits that behavior is determined by the individual's attitudes and subjective norms, which in turn are influenced by the individual's beliefs and the perceptions of others. The three most important components of the theory of reasoned action are beliefs, attitudes, and intentions. Beliefs usually describe the probability that a person thinks some action will cause a certain outcome; attitudes concern whether or not someone thinks that outcome is favorable or unfavorable; and intention is the way that someone intends to behave in response to beliefs and attitudes. Fishbein and Ajzen proposed a hierarchy for the theory of reasoned action. They believed that attitude, subjective norms, and perceived behavior control all contribute to intention, which leads to some extent to behavior. The behavioral, normative, and control beliefs underlying these are influenced by external variables such as demographics and personality. Another improvement that [30] made to the theory of reasoned action is the inclusion of two new elements in predicting behavioral intent: attitude and the expectations of other people. The Theory of Reasoned Action (TRA) can be applied to understand the adoption and use of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect. The TRA posits that an individual's behavior is determined by their intention to perform the behavior, which is influenced by their attitude towards the behavior and subjective norms. *Attitude towards the behavior* refers to the individual's positive or negative feelings about performing a specific behavior. In the context of BBS Connect, if users have a positive attitude towards internet banking perhaps they find it convenient, efficient, and secure they are more likely to intend to use it. *Subjective norms* refer to the perceived social pressure to perform or not perform the behavior. If users perceive that important others (such as family, friends, or colleagues) approve and use BBS Connect, they are more likely to intend to use it themselves. These intentions then lead to actual behavior. If users intend to use BBS Connect, they are more likely to actually use it. The TRA provides a useful framework for understanding and enhancing the acceptance and use of internet banking in Uganda. By focusing on improving attitudes towards internet banking and leveraging subjective norms, we can promote the adoption and use of BBS Connect among its customers [30].

The Theory of Planned Behavior (TPB) is a psychological theory that links beliefs to behavior. The theory was developed by Icek Ajzen and proposes that an individual's decision to engage in a specific behavior can be predicted by their intention to engage in that behavior. The theory proposes that an individual's decision to engage in a specific behavior can be predicted by their intention to engage in that behavior. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, the TPB can provide valuable insights. The theory of planned behavior is

an extension of the theory of reasoned action (TRA), which was first proposed in 1980 by Martin Fishbein and Ajzen. The TRA posits that if an individual evaluates a suggested behavior as positive (attitude), and if they believe significant others want them to perform the behavior (subjective norm), this leads to a greater intention (motivation) to perform the behavior. The TPB theory maintains that three core components shape an individual's behavioral intentions: *Attitude*: This is our personal attitude towards a particular behavior. It is the sum of all our knowledge, attitudes, and prejudices, both positive and negative, that we think of when we consider the behavior. *Subjective norms*: This considers how we view the ideas of other people about a specific behavior. It is not what other people think but our perception of others' attitudes. *Perceived behavioral control*: This is the extent to which we believe we can control our behavior. This depends on our perception of internal factors, such as our own ability and determination, and external factors, such as the resources and support available to us. According to TPB, intentions are determined by these three variables: personal attitudes, subjective norms, and perceived behavioral control. The theory argues that our perception of behavioral control has two effects: It affects our intentions to behave in a certain way, i.e., the more control we think we have over our behavior, the stronger our intention to perform it. It also affects our behavior directly; if we perceive that we have a high level of control, we will try harder and longer to succeed. These three factors attitude, subjective norms, and perceived behavioral control determine the user's intention to use BBS Connect. If users intend to use BBS Connect, they are more likely to actually use it. TPB provides a useful framework for understanding and enhancing the acceptance and use of internet banking in Uganda. By focusing on improving attitudes towards internet banking, leveraging subjective norms, and enhancing perceived behavioral control, we can promote the adoption and use of BBS Connect among its customers.

The Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system [31]. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, the DOI theory can provide valuable insights. The theory identifies five categories of individuals based on their propensity to adopt a new innovation: innovators, early adopters, early majority, late majority, and laggards. These categories can be applied to understand the adoption and use of BBS Connect in Uganda. *Innovators* are the first individuals to adopt an innovation. In the context of BBS Connect, these could be individuals who are highly tech-savvy and open to trying new technologies. They are likely to be the first users of BBS Connect. *Early adopters* are individuals who adopt an innovation after a degree of time has passed since the innovation was first introduced. These individuals are likely to be opinion leaders and play a crucial role in promoting BBS Connect among their peers. *Early majority* are individuals who adopt an innovation once it has been tried and tested by the innovators and early adopters. These individuals are likely to start using BBS Connect once they see others using it successfully. *Late majority* are individuals who adopt an innovation once it has been widely adopted by the majority of society. These individuals are likely to start using BBS Connect once it becomes mainstream. *Laggards* are the last individuals to adopt an innovation. These individuals are likely to start using BBS Connect only when they have no other option. DOI theory provides a useful framework for understanding and enhancing the diffusion of internet banking in Uganda. By identifying and addressing the needs and concerns of different categories of individuals, we can promote the adoption and use of BBS Connect among its customers.

The Customer-Based Perspective is a theoretical approach that focuses on the customer's needs and preferences. It emphasizes the importance of understanding the customer's perspective in order to deliver products and services that meet their needs and expectations. One of the models that use a customer-based perspective is the Customer Based Brand Equity (CBBE) Model. This model, developed by Kevin Keller in 1993, explores the overall brand equity through the customer perspective in order to create a strong and sellable brand in the market. The CBBE Model has 4 distinct levels across 6 branding

components [32]. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, a customer-based perspective would involve understanding the needs and preferences of banking customers. This could include factors such as convenience, security, ease of use, and accessibility. *Convenience*: One of the main advantages of internet banking is the convenience it offers. Customers can perform banking tasks at any time and from anywhere, without having to visit a physical branch. Therefore, it is important for BBS Connect to provide a seamless and convenient banking experience for its users. *Security*: Security is a critical concern for internet banking users. Customers need to trust that their financial information and transactions are secure. BBS Connect should therefore prioritize implementing robust security measures to protect user data and transactions. *Ease of Use*: The usability of the internet banking system can significantly influence its adoption and use. If BBS Connect is easy to navigate and understand, customers are more likely to use it. *Accessibility*: Internet banking should be accessible to all customers, regardless of their digital literacy levels or physical abilities. BBS Connect should therefore be designed in a way that is inclusive and accessible to all users. By aligning the features and services of BBS Connect with these customer needs and preferences, the Bank of Uganda can enhance customer satisfaction and loyalty, thereby promoting the adoption and use of internet banking. A customer-based perspective provides a valuable framework for understanding and enhancing the acceptance and use of internet banking in Uganda. By focusing on meeting customer needs and preferences, we can ensure that internet banking serves as an effective tool for financial inclusion.

The Trust-Based Perspective is a theoretical approach that emphasizes the importance of trust in the adoption and use of a system or service. It suggests that trust is a critical factor in determining whether users will adopt and use a new system or service [33]. The Trust-Based Perspective is a theoretical approach that emphasizes the importance of trust in the adoption and use of a system or service. In the context of internet banking in Uganda, specifically the Bank of Uganda's Internet Banking System, BBS Connect, a trust-based perspective can provide valuable insights. Trust is a critical factor in the adoption and use of internet banking. Users need to trust that their financial information and transactions are secure before they are willing to perform sensitive tasks such as transferring funds or checking account balances online. Therefore, building and maintaining trust with users is a key priority for the Bank of Uganda in promoting the adoption and use of BBS Connect. Trust can be influenced by a variety of factors, including the perceived reliability and credibility of the system, the security measures in place, and the user's previous experiences with similar systems [34]. One of the most important factors influencing trust in internet banking is the security measures in place. The Bank of Uganda should implement robust security measures to protect user data and transactions. This could include encryption technologies, two-factor authentication, and regular security audits. Providing clear and transparent information about how BBS Connect works and how user data is handled can also enhance trust. Users should be able to easily understand how to use the system, what data is collected, how it is used, and how it is protected. The reliability of BBS Connect is another critical factor. The system should be consistently available and function correctly. Any issues or errors should be promptly addressed. Providing excellent customer service can also enhance trust. If users have any issues or concerns, they should be able to easily contact customer service and receive prompt and effective assistance. The reputation of the Bank of Uganda can also influence trust. If the bank has a strong reputation for providing reliable and secure services, users are more likely to trust BBS Connect. A trust-based perspective provides a valuable framework for understanding and enhancing the acceptance and use of internet banking in Uganda [35]. By focusing on building and maintaining trust with its users, the Bank of Uganda can promote the adoption and use of BBS Connect.

4. CONCLUDING REMARKS

Internet banking, a revolutionary concept in the financial sector, has significantly transformed the way banking services are delivered and accessed. In Uganda, the adoption of internet banking has been growing steadily, driven by factors such as increased internet penetration, smartphone usage, and banks' investment in digital infrastructure. Despite the advantages of convenience and efficiency, challenges such as cyber security and low digital literacy levels persist. However, with continuous efforts from banks and other stakeholders to address these issues, the future of internet banking in Uganda looks promising. Theoretical models like Task Technology Fit (TTF), Unified Theory of Acceptance & Use of Technology (UTAUT), Initial Trust Model (ITM), Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Diffusion of Innovation (DOI), Customer-Based Perspective, and Trust-Based Perspective provide valuable insights into understanding the adoption and use of internet banking. Internet banking in Uganda is poised for growth. By focusing on improving customer experience, leveraging technology, and addressing existing challenges, internet banking can play a crucial role in promoting financial inclusion and economic growth in Uganda. As technology continues to evolve, it will be interesting to see how the landscape of internet banking in Uganda continues to develop in the future.

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