

# Digital Banking Services in Developing Countries: Bridging the Gaps in Financial Inclusion and Economic Growth from the Point of View of Sri Lanka

Aruna C. H.N.A<sup>1</sup>, Mazuki Jusoh<sup>2</sup>, Jacqueline Tham<sup>3</sup>

## Abstract

*In the twenty-first century, several countries anticipate digitization to drive their economies. Digital banking services are one of the driving forces that enable countries' transitions to the digital economy, boosting financial inclusion and attaining efficient economic growth; yet, most emerging nations are struggling to meet the projected level of growth in this field; as a result, their economic growth is stagnated. This conceptual paper intends to establish a novel model by incorporating major variables that impact the use of digital banking services in future research. Drawing upon previous literature and theoretical frameworks, the paper develops hypotheses. While the banking industry is a pioneer in setting the right background, people's propensity to use these services has a wider influence. Understanding the bigger consequences that restrict development in using these services may thus be crucial. Inconsistencies and inconclusiveness in the research findings and new knowledge emerging due to the ever-evolving FinTech is also a fact of the matter creating a knowledge gap; therefore, the need for research based on new models that consider different variables is significant in fulfilling this knowledge gap.*

**Keywords:** Digital Banking Services, Developing Countries, Sri Lanka, Perceived Usefulness, Perceived Ease of Use, Perceived Security, Knowledge, Rewards, Moderator Variables

## INTRODUCTION

The growth of digital technology has considerably altered the global financial business. This is largely owing to the continual improvements in FinTech (financial technology). Digital banking services (DBSs) are a key innovation that FinTech has introduced to the financial industry. They are tools that function on electronic and digital platforms, allowing consumers to access financial services and make transactions at any time of the day. For users of these services, geography is no longer a barrier. They change people's banking habits and how businesses handle their transactions. DBSs have greatly enhanced the interactions of consumers and businesses with the financial system. These services have removed the limits of conventional banking, consequently encouraging a culture of ease. DBSs enable underbanked and unbanked people to access financial services using electronic devices, such as computers and mobile phones. This significant benefit created by DBSs is crucial for countries' economic development, financial inclusion, and transformation into the digital economy; however, most emerging nations encounter challenges in attaining the anticipated growth rate in the use of DBSs, which hamper their economic growth. This concept paper intends to propose a new model for future research to cover a present strategic gap in the body of knowledge, notably from Sri Lanka's perspective. However, the consequences of the findings may be generally applicable, particularly for emerging nations struggling to increase the growth in the use of these services.

## LITERATURE REVIEW

### Global Perspective in Digital Banking

Globally, the usage of DBSs is expanding due to the breadth of benefits given by these services; according to Statista (2021), the number of users will soar to over 2.8 billion by the end of 2024. Most nations, particularly those in the developed world, have benefited from the widespread development and use of DBSs, especially those in the developed part of the world. By implementing enhanced financial inclusion, stability protocols, and synchronized core processors with the worldwide digital trend in the FinTech industry,

<sup>1</sup> Ph.D. Candidate, Management, and Science University, Malaysia. ORCID ID: <https://orcid.org/0009-0005-1997-4002>. E-mail: arunahna@gmail.com

<sup>2</sup> Management and Science University, Malaysia. E-mail: keyjus@yahoo.com

<sup>3</sup> Management and Science University, Malaysia. E-mail: jacqueline@msu.edu.my

these countries successfully harnessed the advantages of this technology (Butt and Butt, 2021). The findings emphasized by Feyen et al. (2021) indicate that individuals in industrialized economies predominantly depend on digital banking systems (DBSs) to manage their financial matters and conduct transactions. Therefore, the utilization of these services has a significant impact on their economies (Ajanthan, 2018). Scholars note that knowledge, understanding of benefits, convenience, security level, experience, and education are some major aspects leading to a rise in the use of DBSs in these nations (Butt & Butt, 2021; Indriasari et al., 2022; Zeynalov, 2023). Researchers also suggest that the use of DBSs is strategically vital for economies, aiding these nations to attain efficient economic growth and move into the digital economy, which supports rapid economic growth (Li & Liu, 2021). Evidence suggests that the widespread use of DBSs has helped these nations to boost their digital asset base greatly contributing to rising GDP levels (Shpanel-Yukhta, 2022). The rationale is that DBSs promote economic efficiency and sustainability (Mukhamedov et al., 2020); nevertheless, this is not the case in many developing nations, especially those with low use of DBSs.

### Digital Banking in Developing Countries

Most emerging nations are encountering difficulty in obtaining adequate growth in these sectors; as a result, the economic growth of these countries is affected severely, and in most cases, unable to keep up with the global growth trend. While the fact is so, the implementation of m-pesa in Kenya and Paytm in India are the two successful case studies for the effective deployment of DBSs.

### Success factors influencing m-pesa and Paytm

Both Kenya and India have effectively implemented DBSs in their countries (K.Srivani & Kiran, 2019). The m-pesa in Kenya is a mechanism established to provide financial services to Kenyans residing in rural areas. This technology significantly lowered the transaction cost and increased financial inclusion. Conversely, Paytm has revolutionized India's digital ecosystem by utilizing mobile technology to facilitate payments. Literature indicates that a list of factors collectively impacts the successful implementation of these platforms; they can be summarized into physical, behavioral, and cognitive factors as indicated in Table 1. These factors were cited by referring to book chapters and articles describing these case studies (K.Srivani & Kiran, 2019; Mbinkeu, 2016; Peter, 2024).

**Table 1: Factors impact on successful implementation of M-pesa and Paytm**

	<b>M-pesa In Kenya</b>	<b>Paytm in India</b>
Physical	Infrastructure Development:  Mobile Phone Penetration  Reliable and secure technology to ensure safe transactions	Development of a robust and user-friendly mobile wallet platform Strategic partnerships with banks, retail chains, and service providers to expand the network. Creation of infrastructure to support cashless transactions across various sectors.
Behavioral Change	Building trust among users in rural areas to use mobile-based financial services.  Government Support  Encouragement and training for local businesses to accept M-Pesa for transactions.	The government's demonetization policy accelerated the shift towards digital payments.  Merchant Training  Offering cashback, discounts, and rewards to encourage user adoption
Cognitive Changes	Financial Literacy  Marketing and awareness campaigns to highlight the benefits and ease of use of M-Pesa. The shift in perception towards seeing mobile money as a valuable and essential service.	Efforts to educate consumers on the benefits and usage of digital payments. Building trust in the security and reliability of digital transactions. Encouraging a shift from cash-based transactions to digital payments through continuous engagement and support

### Challenges faced by developing nations in expanding DBSs

Researchers claim that although there is global growth in the use of DBSs, this is not constant across all areas, and their use in most developing nations remains modest (Alalwan et al., 2017; Mukhamedov et al., 2020) This stresses that the revolutionary potential of DBSs has yet to be fulfilled in underdeveloped nations. A large

fraction of the population has still been excluded from receiving financial services. Of whom, the share of women excluded from financial inclusion is considerable (Komanisi et al., 2022). This issue is caused by a multitude of factors, including inadequate infrastructure, insufficient information, poor perceptions of security, and cultural impediments. Even with the potential benefits of DBSs, there is a substantial gender gap in terms of acceptability and use. In most underdeveloped nations, individuals do not have adequate knowledge to use these services (Ansari, 2018). Also, the gaps in digital literacy, a lack of access to devices and affordability, a lack of trust, and security concerns are key challenges for these nations to realize the predicted level of development in using these platforms. Many researchers also suggest that one's intention is vital for motivation to use these services and is impacted by many variables (Inder et al., 2022; Malik et al., 2022). This emphasizes that multiple factors influence the choice to use DBSs (Sharma, 2017).

### **Challenges faced by Sri Lanka**

Sri Lanka is classified as a developing nation. It has a commendable literacy rate of 92.9% in 202; however, the financial literacy of its people is very low, hovering around 35% (Central Bank of Sri Lanka, 2021). At the start of 2023, the country's internet penetration level was 14.58 million, accounting for 66.7% of the population (Kemp, 2023). This percentage is notably higher when compared to other nations in the South Asian area. Nevertheless, this does not necessarily indicate the digital banking habits of Sri Lankans. The use of DBSs by people considerably stays at a low rate (PNasiketha et al., 2023). This is despite mobile banking services being launched two decades earlier (Ruwini & Pushpika, 2024). The issue is particularly severe in the rural areas of the country (Mano et al., 2020). Lack of knowledge is the major factor causing this low level of use (Sanjeetha et al., 2022). Perceived usefulness and website usability are key factors that might motivate individuals to use these services (Nayanajith & Joy, 2019). People's perceptions also impact the use of these services. Perception is the mental process by which an individual comprehends and interprets information received from external stimuli. Behavioral scientists claim that when an individual receives a stimulus, their cognitive process comes into play, leading to a certain reaction. The issue is that if a person has a poor perception of the technology, especially its security level, benefits, and simplicity of use, it works as a mental barrier inhibiting such a person from using it. The prevalence of low-level use can be attributed to a negative perception of security and a limited understanding of the benefits offered by these services (Sachitra & Dayaratna, 2023). Most Sri Lankans are neutral in their assessment of the security, usefulness, and ease of using DBSs (Mano et al., 2020). Scholars also underline that these are significant variables determining user behavior (Madushani & Balendran, 2020). Also, offering rewards to encourage people's behavior is a significant factor; however, the research highlights that the impact of rewards such as incentives and promotional offers on motivating consumers in Sri Lanka is less studied (Fairooz & Wickramasinghe, 2020).

Some scholars suggest that experience and educational level are key variables in determining the amount of use (Prabodhi & Buddhika, 2022). But some others argue that rather than education and experience, convenience, timeliness of delivery, security level, accessibility, and language barriers are crucial variables that influence the use of DBSs (Ekanayake et al., 2019; Gunaratnam et al., 2017). This demonstrates that education and experience indifferently affect the users' behavior in the use of DBSs. The other notable factor is that most research about DBSs focuses on specific geographies rather than entire islands (Hapuarachchi & Samarakoon, 2020). This may pose the question of the generalizability of the results due to the fact of context differences; therefore, these facts collectively emphasize the vast variability in the existing literature about the use of DBSs and underscore the presence of innate behavioral intricacies, necessitating ongoing research efforts based on novel models to understand the issue comprehensively (Chandrasiri & Karandakatiya, 2018).

To address this research gap, the researcher reviews variables such as perceived usefulness, perceived ease of use, perceived security, knowledge, rewards, and behavioral intention, and assesses how they impact the use of DBSs. Furthermore, researchers expect to explore how the relationship between these variables is affected by moderators such as education and experience, as well as how they collectively explain users' behavior.

### **The objectives of the research**

The primary objective of the study is to identify the "most significant factors influencing the use of DBSs, especially in the Sri Lankan context." The study also encompasses other objectives.

To understand the impact of perceived usefulness on behavioral intention in the presence of moderator variables, education, and experience.

To find out how perceived ease of use influences users' intention to use DBSs in the presence of moderator variables, education, and experience.

To understand how perceived security impacts users' intentions to use DBSs in the presence of moderator variables, education, and experience.

To comprehend how knowledge of users impacts behavioral intention to use DBSs in the presence of moderator variables, education, and experience.

To find out how rewards influence the user's intention to use DBSs in the presence of moderators.

To understand how behavioral intention impacts the use of DBSs.

### Scope of DBSs

DBSs include a variety of digital and electronic platforms through which banks and financial institutions deliver financial products and services to their clients. They enable customers to manage their accounts and access a wide range of financial products and services through digital means. Gaining a clear understanding of the extent of DBSs allows researchers to conduct a thorough analysis of their effects on financial inclusion, targeted policy recommendations, innovation and service enhancement, insights into user behavior, integration across different channels, assessments of impact, management of risks and security, as well as scalability and adoption. Table 2 below lists the various platforms that DBSs include and their functions. The list was taken by referring to several sources such as journal articles, websites, and even discussions made with employees of the banks in Sri Lanka.

**Table 2: DBSs' platforms and their services**

Types of Plat Form	Services provided
Online Banking	<ul style="list-style-type: none"> <li>• Account management</li> <li>• Fund transfers</li> <li>• Bill payments</li> <li>• Loan applications</li> <li>• Online statements</li> </ul>
Mobile Banking	<ul style="list-style-type: none"> <li>• Mobile apps for smartphones and tablets</li> <li>• Mobile check deposit</li> <li>• SMS banking</li> <li>• Push notifications for account activities</li> <li>• Mobile wallets</li> </ul>
ATM Services	<ul style="list-style-type: none"> <li>• Cash withdrawals and deposits</li> <li>• Account balance inquiries</li> <li>• Fund transfers</li> <li>• Mini statements</li> </ul>
Electronic Funds Transfer (EFT)	<ul style="list-style-type: none"> <li>• Real-Time Gross Settlement (RTGS)</li> <li>• National Electronic Funds Transfer (NEFT)</li> <li>• Immediate Payment Service (IMPS)</li> </ul>
Digital Payment Systems	<ul style="list-style-type: none"> <li>• Unified Payments Interface (UPI)</li> <li>• QR code payments</li> <li>• Payment gateways for online shopping</li> <li>• Digital wallets</li> </ul>
Customer Support Services	<ul style="list-style-type: none"> <li>• Chatbots and virtual assistants</li> <li>• Email and phone support</li> <li>• Online help centers and FAQs</li> </ul>
Investment Services	<ul style="list-style-type: none"> <li>• Online trading platforms</li> <li>• Robo-advisors</li> <li>• Digital wealth management</li> </ul>

Personal Financial Management Tools	<ul style="list-style-type: none"> <li>• Budgeting tools</li> <li>• Expense tracking</li> <li>• Financial goal setting</li> </ul>
Loan and Credit Services	<ul style="list-style-type: none"> <li>• Online loan applications</li> <li>• Credit score monitoring</li> <li>• Digital credit card applications</li> </ul>
Security Services	<ul style="list-style-type: none"> <li>• Two-factor authentication (2FA)</li> <li>• Biometric authentication (fingerprint, facial recognition)</li> <li>• Fraud detection alerts</li> </ul>

### **Key Aspects of DBSs and their significance**

**Convenience:** the users can perform transactions without a physical appearance at the physical branches.

**Speed:** Users can enjoy faster and more real-time updates.

**Accessibility:** the availability at any time and anywhere if the internet facility is available

**Security:** ensuring a high level of security through biometric verification, encryption, and two-factor authentication.

**Integration:** To handle financial affairs effectively, DBSs provide greater integration with other financial tools, such as budgeting apps and investment platforms.

**Personalization:** DBSs allow for tailoring the service offering to the needs of customers using data-analytic technology.

The key aspects play a significant role in meeting the needs of various stakeholders such as people, financial institutions, and governments of the countries to achieve the economic goals.

### **For People**

The users can handle their accounts and conduct transactions at a rapid pace without reaching physical branches, yet they have high protection provided by sophisticated data security technology. The unbanked and underbanked population can access banking services conveniently through these services. They only require devices that facilitate access and an internet connection. DBSs reduce the need for dependency on physical branches and the waiting time for service approval and transactions. The users can conduct instant funds transfers and receive real-time account updates. Furthermore, these services facilitates financial planning through enhanced integrations. DBSs offer unified platforms for managing various financial requirements. In addition, they sync with expense and budgeting monitoring tools to help you manage personal finances more effectively.

### **For Banks**

DBSs break geographical boundaries and boost banks' capacity to reach a larger audience by offering their services; hence, they widen bank geographical accessibility without having physical branches. They also help banks to attract tech-savvy youthful populations to use banking services. Hence, enhancing their market presence and competitiveness. DBSs give banks a more effective and convenient business model, eliminating foot traffic at branches; as a result, there is a large savings in operational costs. Moreover, banks can increase process efficiency, which, in turn, boosts banking operations. These platforms increase their efficiency in delivering various financial goods and services, lowering the time necessary for the banking process and enhancing client service and loyalty. The enhanced security features such as two-factor authentication (2FA), biometric authentication, encryption, secure socket layer (SSL) certificates, multi-factor authentication (MFA), one-time passwords (OTPs), firewalls, and intrusion detection systems (IDS) embedded into these platforms allow banks to provide more secured service; as a result, fraud and data breaches have been reduced, improving consumer trust and confidence. BDSs help banks adapt their service to clients' demands, increasing customer engagement and retention. Personalized product offerings may help banks collect more money. They simplify data analytics, boosting banks' capacity to improve customer relationship management.

## **For Countries**

The outcomes of this study would assist countries' governments, notably in the realms of policy formation and direction for governmental decision-making. For instance, Insights from this study could provide a theoretical framework for establishing successful policies that promote the usage of DBSs, therefore boosting financial inclusion. Moreover, they help identify critical areas for regulatory changes that stimulate innovation in the industry. Another important effect of the expanding use of DBSs is their potential to support the country's economic progress. Through these platforms, countries' governments can provide finances for small and medium-sized enterprises (SMEs), allowing them to augment their operation; as a result, improving national output and creating more job opportunities. Also, DBSs help these SMEs enter the global market, resulting in increased national output. Since the study emphasizes the significance of DBSs in augmenting financial inclusion, the country can deploy effective programs to connect a significant proportion of the population to the financial system. This will lead to reduce the unbanked and underbanked population in the country. Furthermore, the findings can aid in establishing effective techniques to boost the accessibility and affordability of financial services via digital platforms. In addition, this research would assist to know the adequacy of infrastructure level for growth in DBSs in the country or require further investment to upgrade the infrastructure. Moreover, countries may leverage research results to establish a comprehensive security framework for digital commerce, incorporating both ethical and security issues. In addition, countries' governments can use insights from the study to determine the perfect strategy to raise financial literacy and digital skills within the population. This will lead to increasing social empowerment and economic resilience, as well as eliminating poverty and boosting living standards through enhanced financial access and management.

## **The impact of DBSs on the Digital Economy**

For many countries, the shift to a digital economy is essential since it fosters efficient economic growth (Li & Liu, 2021). "The digital economy is an economic model that relies on digital elements such as infrastructure, services, and technology (Tables, 2020, P. 140)." According to Lewis (2023), it is the economic system that uses digital technology to perform economic activities efficiently and effectively and the shift to a digital economy resulted in significant changes in infinite shelf space, zero marginal cost, and friction-free transactions, making cryptocurrencies an appealing alternative to traditional currencies. It is the future of counties economies supported by digital technologies for efficient economic management. Globally, the digital economy is growing accounting for an estimated 24.3% of global GDP by 2025 (William Xu & Adrian Cooper, 2017). Most developing economies, including Sri Lanka, are failing to keep up with the pace for a variety of reasons.

## **Literature Review and Hypothesis Development**

### **"Use"- use of DBSs**

According to Taylor and Todd, (1995), "the use is the behavior exhibited by the individual." "Use" behavior is closely associated with a person's intention, especially specific behaviors such as the use of online banking (Hossain et al., 2020). The term "use of DBSs" refers to a broad spectrum of behaviors and interactions (Zhan & Huang, 2019). This may involve account management, fund transfers, bill payment, mobile banking, and other services such as customizing account settings and preferences, applying for new accounts, and managing loyalty programs and rewards. The 'Use of DBSs' is an act carried out and motivated by a person's behavioral intention (Bhati et al., 2023; Kaur & Sharma, 2022). This emphasizes that 'Use' is affected by behavioral intention when it comes to specific behavior. In the technological literature, the act of use is commonly referred to as "acceptance" (Otten et al., 2023) or "adoption" (Malhotra & Kumar Baag, 2023). Acceptance may be one's preference to use technology (Alshammari & Rosli, 2020), whereas adoption may involve acceptance or integration with something one prefers to have or do. In the context of DBSs, the idea of adoption may be the process by which clients accept and incorporate different digital banking solutions into their daily financial habits. The significance is that the use of IT itself encourages users to use it more often (Venkatesh et al. (2003). These facts collectively explain that the use of DBSs is affected by the BI of a person.

### **Perceived Usefulness (PU)**

Davis (1989) explains PU as "the degree to which a person believes that using a particular system would enhance his or her job performance". The impact of PU is a widely recognized factor in the field of Digital banking (Hapuarachchi & Samarakoon, 2020; Mano et al., 2020). PU is a subjective probability factor that determines the level of improvement that they can achieve through the use of technology (Dhingra & Mudgal, 2019; Tyas & Darma, 2017). In other words, it's a belief created within the mind of the person that technology is beneficial and allows them to complete tasks quickly from any location. However, it may also work as a mental barrier if the person does not perceive technology as useful. The PU is validated as a powerful factor variable incorporated into the technology acceptance model (TAM) developed by Davis (1989). It is an outcome of the experience that consumers perceive when using new technology. PU is a key driver motivating people to use DBSs (P. Sharma & Gupta, 2023). Maragaoda (2019) describes that PU is an important consideration for individuals to adopt DBSs. These facts collectively demonstrate that PU significantly influences the use of DBSs; however, scholars emphasize that education and experience cause the relationship between PU and BI to vary in the use of online platforms (Jermsittiparsert et al., 2023). Therefore, the hypothesis between PU and BI can be drawn as:

H1: PU significantly impacts BI on using DBSs in the presence of moderators such as education, and experience.

### **Perceived Ease of Use (PEU)**

In the TAM developed by Davis (1989), PEU is one of the factor variables. He emphasized that PEU is a significant factor in deciding whether or not to accept and use technology. A person who finds a user-friendly technology is more likely to adopt and incorporate it into their daily routines. On the other hand, people could be reluctant to embrace technology if they believe it to be difficult to use or complicated. PEU refers to the ease of comprehension, learning, and application of technology (Ubaidillah et al., 2020). Customers are more inclined to adopt the newest digital banking systems if they think they are "super easy to use and highly user-friendly, just what you want to touch on the app to get the service." Nevertheless, a significant portion of the population, particularly those living in rural regions, may perceive these services as very challenging to use and suitable only for those with extensive expertise. This cognitive obstacle is impeding the advancement of digital technology. Researchers also have divergent opinions on the significance of PEU in using DBSs. While Gayan Nayanajith et al. (2019) emphasize that PEU is a significant factor in the user acceptability of DBSs, Madusanka, and Kumari (2021) found that PEU is not an influential factor in the Sri Lankan context, particularly for non-banking customers, to adopt the DBS. As per Mano et al. (2020), PEU serves as a primary incentive for users to embrace e-banking services. De Leon (2019) states that PEU impacts BI on using online banking. Empirical evidence also indicates that the impact of PEU on BI in using technology varies with a person's education and experience (Garcia et al., 2022)(Alfani et al., 2023). Thus, the hypothesis between PEU and BI can be drawn as:

H2: PEU significantly impacts BI on using digital banking services in the presence of moderators such as education, and experience.

### **Perceived Security (PS)**

Significant security issues have arisen as a result of the expanding use of new technologies and e-commerce platforms (Kumar et al., 2020). Unlike technical security, PS is a psychological concept. Salisbury, Pearson, and Pearson defined PS as the extent to which one can securely transmit sensitive information over the web" (Salisbury et al., 2001). This emphasizes that an individual subjectively assesses perceived security. One's perception of security is affected by several factors, such as personal experiences, beliefs, values, and social norms. It is a major factor for a person to determine whether or not to use DBS.

In using DBSs, client trust, behavior, and risk-reduction tactics are influenced by perceived security; therefore, banks must handle both physiological impressions of clients and technical measures relating to the security of these platforms. This would help banks maintain a reliable and safe banking environment. Lai and Liew (2021) argue that security measures taken by banks in payment systems may not match client expectations or

perceptions. Scholars signify the vitality of exposure levels of security in digital payment methods (de Kerviler et al., 2016; Lai, 2017). This emphasizes the idea that the security level of these platforms often affects people's intention to use them (Alfani et al., 2023). The other factor is that people's perceptions of security may differ because of different education and experience levels (Azevedo et al., 2022). Given that security is a hot topic of discussion in banking research (Apau & Lallie, 2022), it will always be important in the digital age. Therefore, the following hypothesis can be drawn based on the relationship between PS and BI:

H3: PS influences BI in using DBSs in the presence of moderators such as education, and experience.

### **Knowledge (KNW)**

According to Bolisani and Oltramari (2012), knowledge is formed by our understanding and desire to acquire experience, information, or insights. Knowledge encompasses the information, understanding, and skills that an individual has acquired through education or practical experience. Acquiring knowledge allows individuals to make appropriate choices regarding their conduct (Siposova et al., 2021). Fernando and Ashfa (2021) showed that knowledge is a significant component in determining technology adoption. According to Lim et al. (2019), knowledge plays a crucial role in the adoption of IT. Understanding digital banking platforms, devices facilitating access to these services, and the internet are essential factors driving their use. Rajapakse (2017) emphasizes that a limited understanding of the Internet poses a substantial obstacle to the use of DBSs. The use of online platforms is affected by knowledge, as demonstrated by (Pham et al., 2022). Additionally, the impact of knowledge on the intention to use DBSs is influenced by both education and experience (Malik et al., 2022). Consequently, the hypothesis regarding the connection between knowledge and behavioral intention can be drawn as follows:

H4: KNW influences BI in using DBSs in the presence of moderators such as education, and experience.

### **Rewards (RWD)**

Vassiliadis et al. (2021) assert that rewards are the reinforcement that results in motivation. It is a key component in incentive-based learning (Nestor & Nutt, 2019). According to Windasari et al. (2022), incentives can be employed as a tactical instrument to acknowledge an individual's accomplishments; for example, the rewards offered for the use of DBSs to make a payment, particularly for the first time, may make the user feel some sort of accomplishment and may encourage continuous use. Rewards can be intrinsic or extrinsic; both are significant in encouraging particular activities; nevertheless, the focus is more on extrinsic rewards such as monetary incentives, interest rebates, fee waivers, discounts and vouchers, and special offers given to encourage people to adopt and use DBSs. Karayanni and Nelken (2022) however, puts out the argumentative idea about extrinsic rewards; they might be helpful in the short term for promoting specific behaviors. This emphasizes that extrinsic rewards become less effective with time. Grolnick (2023), however, suggests that the use of extrinsic reward must be progressively decreased but not completely stopped. This demonstrates how crucial it is to provide incentives to trigger a specific or new behavior. Incentives can be beneficial in the short term for encouraging consumers to use DBSs and then continuing to do so. Negative reinforcement, on the other hand, discourages specific behavior; for instance, imposing various charges on the use of DBSs may deter a person from using these services. Charges on clients' accounts for using DBSs are a common practice adopted by the banks in Sri Lanka. According to Sunny (2018), using promotional offers encourages people to use online payment methods. The reward has a positive impact on the intention to use digital banking (Windasari et al., 2022). As a result, the hypothesis between RWD and BI can be drawn as:

H5: RWD has a positive influence on BI in using DBSs.

### **Behavioral Intention (BI)**

BI is a significant factor in shaping user behavior. BI emphasizes the individual propensity to perform certain activities (Hakman et al., 2017). In terms of DBSs, BI implies the individual's readiness or motivation to use these services for conducting banking matters and transactions. (Krismadinata et al., 2019). It is a mediator variable in many studies because it determines actual behavior. Also, it is affected by several factor variables



(Indan et al., 2021; Saudjhana & Herman, 2023). Scholars have observed that BI comes into play when a person wants to undertake a specific activity rather than routine tasks (Drasch, 2019; Uturestantix et al., 2022). This statement successfully explicates that the initial phase of using DBSs entails a novel and distinct task for the individual, and their intention plays a pivotal role in determining their use behavior. A variety of attributes influence this element, which shows the type of motivation a person has to carry out the activity. Revathi and Balaji (2020) highlight that BI is affected by attributes such as PS, PEU, and security when determining the adoption of technology. Similarly, an individual's intention to take action can be influenced by several factors in their surroundings, such as their knowledge, education, experience, rewards, and other relevant elements. The theory of planned behavior proposed by Ajzen (1991) provides a clear and comprehensive explanation for this. Furthermore, Cahyani et al. (2022) recognize several potential antecedents that could influence BI. All these facts collectively explain how important BI is in triggering a particular action, especially when the activity is a new and unknown one. Research also indicates that BI influences the use of DBSs in a positive way (Inder et al., 2022; Pham et al., 2022).

H6: BI influences the use of DBSs in a positive way.

### Moderators

Education (EDU) and experience (EXP) are the two significant moderators in this study. Researchers emphasize that incorporating moderators into the research model enhances the explanatory power (Haslbeck et al., 2021; Venkatesh et al., 2003). Statistically, a moderator is a variable that alters how antecedents affect outcomes (Aguinis et al., 2017). Higher education and experience levels may influence factor variables to cause BI to produce different behaviors; for example, education may improve knowledge about DBSs and strengthen the belief about security level; as a result, the impact of knowledge on BI may reduce since the use of DBSs has become the general behavior. According to Söderlund (2023), moderators alter the direction of the relationship between major variables; therefore, it is important that measuring and testing the differential influence of the independent variable on the dependent variable as a function of the moderator is significant. The reason may be that this understanding enables us to come up with better insights in developing strategies to drive people to use these services; for example, the experience of using these services may enhance the perception of the usefulness of digital banking platforms; then strategies to get individuals to acquire a better experience may be ideal to enhance the use of DBSs. In the studies conducted in the past, both education and experience have been used as moderators in research models (N. Sharma & Dutt, 2021; Srivastava et al., 2022). Providing experience enables non-users to use digital banking platforms (Ansari, 2018). To support the objectives set, the hypothesis drawn based on the moderators has been shown in Table 3.

**Table 3: Hypotheses developed based on moderator impact**

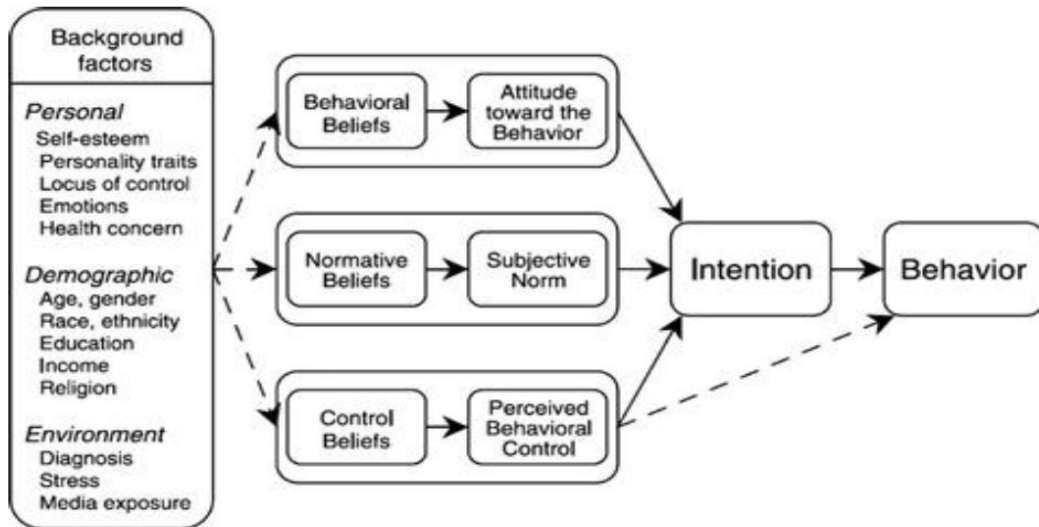
H7: EDU moderates PU and BI relationship.	H11: EXP moderates PU and BI relationship.
H8: EDU moderates the PEU and BI relationship.	H12: EXP moderates PEU and BI relationship.
H9: EDU moderates PS and BI relationship.	H13: EXP moderates PS and BI relationship.
H10: EDU moderates KNW and BI relationship.	H14: EXP moderates KNW and BI relationship.

### Theoretical Review

In order to enhance understanding of developing a conceptual framework for this study, an analysis is conducted on theories such as the theory of planned behavior (TPB), the Unified Theory of Technology Acceptance and Use (UTAUT), the Technology Acceptance Model (TAM), and operant conditioning.

The TPB was introduced by Ajzen (1991) to elucidate human behavior in certain circumstances. Since its launch, it has been more popular among academics because of its applicability and flexibility in many circumstances (Dwivedi et al., 2019). TPB explains the critical association between BI and behavior, indicating that BI comes into play when someone behaves in a certain context. For example, if a person is thinking about using DBSs for the first time or in the early phases, his or her intent is typically significant in selecting whether to use these platforms. The theory depicts that BI is impacted by three main determinants: attitude toward the behavior, social norms, and perceived behavioral control. A person's attitude may be favorable or unfavorable.

For instance, in the case of DBSs, if the individual has a pleasant attitude, the intention to use them prompts in his mind. However, TPB notes that this attitude element alone does not establish a person's intention. In particular settings, two further aspects, social norms, and perceived behavioral control, may come into play. Social norms entail the pressure that a person gets from others in society to do or not perform a specific activity. It demonstrates the value of others to a person. For instance, if a person's friends or family members advocate for him or her using DBSs because it is more convenient, beneficial and they are more secure, his or her predisposition to adopt this habit is quite strong. On the other hand, perceived behavioral control emphasizes the individual's perception of his or her ability to perform certain behaviors in terms of using DBSs, this includes factors such as self-efficacy, resource availability, knowledge and skills, technical support, education and experience, and a user-friendly interface. TPB, as shown in Figure 1, indicates that these three determinants are influenced by background factors which consist of personal, demographic, and environmental factors. The incorporation of proposed variables (PU, PEU, PS, KNW, and RWD) as factor variables connecting to BI in the new model can effectively be supported by TPB. The diagram of TPB has been shown in Figure 1 below, indicating how the preceding variable influences the intention to trigger the particular behavior.



**Figure 1: Theory of planned behavior introduced by Ajzen (1991)**

Source: Hennings and Herstatt (2019)

However, the purpose of the new model is to study technology-related behavior, and it also comprises two moderators, namely, education and experience. To present a compressive argument, for instance, different variables affect technology-related behavior, and the literature reveals suitable instances for the construction of models by changing established models. As described below, TAM and UTAUT are two examples of models manipulated to explain technology-related behavior.

TAM was first introduced by Davis (1989). It has two major antecedents, namely perceived usefulness (PU) and perceived ease of use (PEU), that determine the intention to use technology. According to him, PU is a concept that highlights the extent to which an individual feels that utilizing a specific system would improve their job performance. PEU is “the degree to which a person believes that using a particular system would be free of effort”. Many researchers believe that the model's scope is insufficient to explain technology adoption fully because it only contains two constructs. The original Technology Acceptance Model (TAM) was created to interpret how technology is used in organizational settings, but it later underwent development into several versions. TAM has been extended into different versions. Even in more recent studies, TAM and its advancements are popular (Mohamed Riyath et al., 2022; Sabraz Nawaz et al., 2018b). Additionally, TAM made

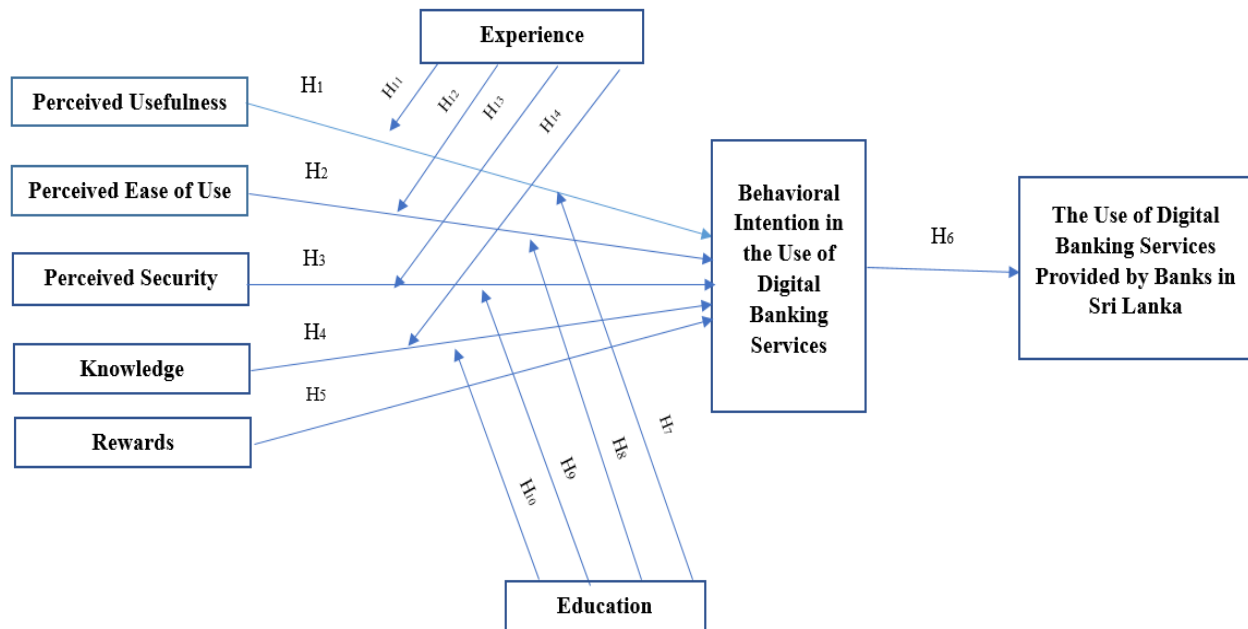
a significant contribution to the development of the Unified Theory of Technology Acceptance and Use (UTAUT) (Siregar et al., 2022).

UTAUT is the model derived as result of the incorporation of perspectives taken from eight well-established theories (Kwarteng et al., 2022). A comprehensive explanation of how individuals accept and use technology may be found in the UTAUT model. With four moderators in addition to the four-factor variables, the UTAUT model is more versatile and robust when it comes to explaining technology acceptance in research. Moderators that are used to illustrate the impact of moderators include age, gender, experience, and voluntariness of use. Without a doubt, this evolution has had a greater influence on the research community overall, but particularly on the subject of technological research. To make their conceptual framework more appropriate for the context they were working in, UTAUT development provides the researchers with greater resiliency in their research studies. When explaining how technology is used, UTAUT was first only used in industrial situations. But as it evolved into more recent versions such as UTAUT2 and UTAUT3, which included more external variables, we now have a better understanding of several aspects related to the adoption of technology in the consumer market. The scope has expanded due to this evolution, making it possible to comprehend how technology is used in a consumer context on a more deep level. The adoption of UTUAT is possible to improve the model's explanatory power (Chand et al., 2022)

The operant conditioning theory stresses how incentives impact a person's behavior (Chen, 2023). The idea would aid in describing human behavior in terms of cause-and-effect interactions (Babel, 2020). Operant conditioning emphasizes that conduct coupled with potential rewards leads to recurring behavior; conversely, acts devoid of such rewards progressively fade (Skinner, 1948). The relevance of this idea is that it explains how positive reinforcement activates the conduct, which is helpful, and providing such incentives may continually promote repeated activity. In terms of DBSs, giving potential rewards may inspire people to use the DBSs regularly.

Based on this theoretical and empirical justification, the researchers developed the study's model (conceptual framework), which is displayed below in Figure 2. In that, perceived usefulness, perceived ease of use, perceived security, knowledge, and rewards are independent variables that influence behavioral intention, the mediator variable, and the outcome variable, the use of DBSs. It has two moderators, and the author assumes that any changes occurring in them impact relationship behavioral intention and its antecedents (perceived usefulness, perceived ease of use, perceived security, and Knowledge). On the other hand, the reward-behavioral intention relationship does not receive any moderator impact. There are thirteen hypotheses drawn to establish the validity of the model.

**Figure 2: *Proposed Conceptual Framework***



## METHODOLOGY

The study is quantitative based on a deductive paradigm which involves exploring existing theories and empirical data for hypothesis formation. The sample frame is those who utilize any type of DBSs and maintain accounts with any financial institution. The sampling approach employs a random selection technique, with a sample size of 700 respondents selected from 25 districts in Sri Lanka. The distribution of questionnaires occurs by WhatsApp, email, and physically by way of seeing the consumer at the premises of banks' branches. Before completing the full-scale dissemination of the questionnaire, the researchers will do pilot testing to confirm the questionnaire's validity and reliability. The data acquired is entered into an Excel sheet first, and then they are sorted for further analysis in SPSS and AMOS.

Furthermore, the researchers guarantee that data collecting corresponds to all ethical norms, including their preferences for participation as respondents. In addition, the data obtained is kept secret all the time.

## Significance of the Study

### Contribution to Theoretical Understanding

This study contributes to the theoretical understanding by proposing a comprehensive framework that integrates DBSs into economic growth and financial inclusion. The use of DBS is affected by several factors that collectively influence user behavior. The study brings the most significant factors into the conceptual framework and depicts the relationship between them and how they impact user behavior. It also allows researchers to address the gaps in the existing body of knowledge by incorporating a variety of theoretical perspectives and formulating hypotheses for empirical validation.

### Practical Implications for Policymakers, Practitioners, and People

The study's findings have the potential to help policymakers and practitioners create strategically significant mechanisms to encourage the use of DBSs in developing countries. Banks can formulate strategies based on the findings to encourage more people to use this technology for managing their banking affairs and transactions. From the countries' government perspective, the findings may be beneficial in assessing the security concerns associated with these platforms and the substantial ethical standards that underpin their expansion. Insights from this study enable the development of new strategies to expand reach and usability, thereby promoting financial inclusion.

## **Directions for Future Research**

Drawing hypotheses and providing methodological recommendations, this study facilitates the development of an effective roadmap for empirical research. It allows researchers to evaluate proposed hypotheses in various contexts and establish the robustness of results and generalizability. Findings essentially minimize the gap in the current body of knowledge, particularly in the context of DBSs.

## **Limitations of the Study**

### **Scope of the Conceptual Framework**

This conceptual paper presents a novel model based on variables recognized after evaluating the research gap in the existing body of knowledge. The availability of literature, particularly from the local context, may not be enough to establish a clear gap and even a time constraint to refer to all the relevant studies conducted in the past. Furthermore, the hypothesis devised to establish the relationship between variables in the model necessitates empirical testing for validation in future research. Then only the model's fitness to the context can be evaluated to determine whether it provides an effective solution for expanding the use of DBSs.

### **Context-specific Challenges**

Researchers may also find context-specific challenges in developing this conceptual paper. Socioeconomic, cultural, and regulatory contexts may vary from country to country which subsequently impacts the generalizability of the findings. Also, the differences in these areas significantly affect users' habits. For instance, people's perceptions, regulatory environment, and level of infrastructure development in countries are different from another; as a result, what works in one country may not necessarily apply to other countries.

### **Data Availability and Quality**

The proposed model's effectiveness depends on the availability of comprehensive and reliable data regarding the use of DBS. The prevalence of these data may be doubtful in developing countries due to the fact that insufficient studies were conducted in the area. Also, people's literacy in answering the questionnaire may impact the ultimate results. This limitation may impact the efficacy of the proposed paradigm.

### **Rapid Technological Changes**

The evolutionary nature of technology in this sector means that the appropriateness of the model and hypothesis proposed in this paper may not be completely relevant by the time research is undertaken; therefore, continuous updates and adaptation may be necessary for the model to keep its effectiveness.

### **Ethical and Privacy Concerns**

Even though this technology offers significant benefits, it may raise some ethical and privacy issues. Addressing all these within this conceptual paper is a challenging task; thus, these aspects must be explored in future research.

## **CONCLUSION, RECOMMENDATION, AND MANAGERIAL IMPLICATIONS**

The importance of DBSs in promoting financial inclusion, facilitating the transition to a digital economy, and fostering efficient economic growth cannot be overstated. They have become essential in achieving success in these areas because they make it easier for people to access financial systems and conduct business. In any country, DBSs are a trendsetter in this critical transformation since people primarily have faith in the banking system. A substantial literature review was done to find a knowledge gap and create a helpful model to study this. The researchers realized the requirement for the model, and it is critical to include significant variables based on the knowledge gap. Four Important theories (TPB, TAM, UTAUT, and operant conditioning) were assessed to establish the relationship between variables affecting DBSs and to create a feasible solution model.

Growing digital DBSs is strategically important for many emerging countries aiming to grow their digital economies. However, barriers to the widespread use of DBSs prevent them from realizing their transformational potential. Adoption is hampered by elements like insufficient knowledge, a poor perception

of benefits and ease of use, security concerns, and lack of rewards. Furthermore, individual characteristics such as education and experience have a significant impact on their propensity to use DBSs. Policy frameworks, regulations, and initiatives are fundamental in facilitating the adoption of DBSs across the country. Sri Lanka, like many emerging economies, can benefit from strategic policies aimed at promoting financial inclusion and digital literacy. The interaction of these parties such as the government, banks, and people forms the cornerstone of the successful adoption of DBS, advancing emerging countries like Sri Lanka towards a future where people are empowered by technology.

This study offers significant new information about how DBSs could support growth, diversity, and accessibility in the digital era. The findings highlight the necessity of making significant investments and adopting necessary actions, which will be helpful to policymakers in emerging nations. Only through these avenues will DBS's full promise for financial inclusion and economic prosperity be realized.

## **Acknowledgment**

In preparing this conceptual paper, the guidance provided by the university is significant, particularly for Professor. Dr. Ali Khatibi and Associate Professor. Dr. S. M. Ferdous Azam. Their guidance assisted the author in incorporating some essential aspects of the issue into the paper. Also, facilitation given by the university's Sri Lankan branch is highlighted in completing this paper.

## **REFERENCES**

- Aguinis, H., Edwards, J. R., & Bradley, K. J. (2017). Improving Our Understanding of Moderation and Mediation in Strategic Management Research. *Organizational Research Methods*, 20(4), 665–685.
- Ajanthan, D. (2018). Customers' adoption and use of E-Banking Services: A study in public commercial Banks, Sri Lanka. *SAARJ Journal on Banking & Insurance Research*, 7(2), 29.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of Mbanking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, 37(3), 99–110.
- Alfani, D. S., Yuniarto, A., & Handrito, R. P. (2023). THE EFFECT OF PERCEIVED EASE OF USE ON INTENTION TO USE ON BANK SYARIAH INDONESIA MOBILE BANKING USERS IS MEDIATED BY E-TRUST AND RELIGIOSITY AS MODERATORS. *International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration (IJEBAAS)*, 3(4), 1248–1259.
- Alshammari, S. H., & Rosli, M. S. (2020). A review of technology acceptance models and theories. *Innovative Teaching and Learning Journal (ITLJ)*, 4(2), 12–22. <https://doi.org/https://doi.org/10.5220/0011785500003476>
- Ansari, Z. A. (2018). Barriers to internet banking adoption in developing countries: a consumer survey. *International Journal of Electronic Banking*, 1(2), 171–193.
- Apaua, R., & Lallie, H. S. (2022). Measuring User Perceived Security of Mobile Banking Applications. 1–36.
- Azevedo, V., Nunes, L. M., & Sani, A. (2022). Is Campus a Place of (In)Security and Crime? Perceptions and Predictors among Higher Education Students. *European Journal of Investigation in Health, Psychology and Education*, 12(2), 193–208. <https://doi.org/10.3390/ejihpe12020015>
- Babel, P. (2020). Operant conditioning as a new mechanism of placebo effects. *European Journal of Pain*, 24(5), 902–908.
- Bhati, J., Sharma, S., & Gola, K. R. (2023). Exploring Factors Behind E-Banking Adoption in India: A UTAUT Model Study. In *2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS)*, 2450–2454.
- Black, N. F., Lockett, A., Winklhofer, H., & Ennew, C. (2002). "The adoption of Intranet financial services: a qualitative study." *International Journal of Retail & Distribution Management*, 39(6), 513–524.
- Bolisani, E., & Oltramari, A. (2012). Knowledge as a measurable object in business contexts: A stock-and-flow approach. *Knowledge Management Re-Search & Practice*, 10(3), 275–286.
- Butt, M. W., & Butt, U. J. (2021). Digitalisation of the global FinTech industry. In *In Research Anthology on Concepts, Applications, and Challenges of FinTech* (pp. 167–185). IGI Global. <https://doi.org/doi: 10.4018/978-1-7998-0131-3.CH021>
- Cahyani, U. E., Sari, D. P., & Afandi, A. (2022). Determinant of Behavioral Intention to Use Digital Zakat Payment : The Moderating Role of Knowledge of Zakat. *ZISWAF: Jurnal Zakat Dan Wakaf*, 9(1), 1–16.
- Central Bank of Sri Lanka. (2021). BOX 10 National Financial Inclusion Strategy of Sri Lanka: "Better Quality Inclusion for Better Lives" Introduction. *Annual Report 2021*, 261. [https://www.cbsl.gov.lk/sites/default/files/cbslweb\\_documents/publications/annual\\_report/2021](https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/annual_report/2021)

- Chandrasiri, R. P. H. D., & Karandakatiya, T. K. (2018). The Factors Impact on Internet Banking Adoption with Special Reference to Kurunegla District. *Wayamba Journal of Management*, 9(1), 23. <https://doi.org/10.4038/wjm.v9i1.7501>
- Chen, X. (2023). A Study of Using Reward and Punishment in The Education of School-Aged Children—Based on Behaviorism Theory Operant Conditioning. *Journal of Education, Humanities and Social Sciences*, 10, 86–90.
- Davis, F. D. (1989). Perceived Usefulness, perceived Ease of use, and Use Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.
- de Kerviler, G., Demoulin, N. T. M., & Zidda, P. (2016). Adoption of in-store mobile payment: Are perceived risk and convenience the only drivers? *Journal of Retailing and Consumer Services*, 31, 334–344.
- Dhingra, M., & Mudgal, R. K. (2019). Applications of perceived usefulness and perceived ease of use: A review. In 2019 8th International Conference System Modeling and Advancement in Research Trends (SMART) , 293–298. <https://doi.org/10.1109/SMART46866.2019.9117404>
- Drasch, K. (2019). Behavioral intentions, actual behavior and the role of personality traits. Evidence from a Factorial Survey among Female Labor Market Re-entrants. *Methods, Data, Analyses*, 13(2), 267–290. <https://doi.org/10.12758/mda.2017.14>
- Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model. *Information Systems Frontiers*, 21(3), 719–734. <https://doi.org/10.1007/s10796-017-9774-y>
- Ekanayake, N., Weerasinghe, H., Wijekoon, N., & Katthriarachchi, P. (2019, September). A comparative study of private and public sector e-banking in Sri Lanka: Analysis of critical success factors. In International Research Conference, General Sir John Kotelawala Defence University, Sri Lanka.
- Fairooz, H. M. M., & Wickramasinghe, C. N. (2020). Innovation and development of digital finance: A review on digital transformation in selected banking & financial Sector of Raipur city in Chhattisgarh. *Digitalisation & Innovations in Business*, 1(July), 140–149.
- Fernando, I., & Ashfa, A. (2021). What Factors Affects Customer Adoption Towards Virtual Banking? Study based on Western Province, Sri Lanka. *SSRN Electronic Journal*, 5(2), 44–56. <https://doi.org/10.2139/ssrn.3780736>
- Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). Fintech and the digital transformation of financial services: implications for market structure and public policy. In *BIS Papers* (Vol. 117, Issue 117).
- Garcia, M. B., Alcober, G. M. I., Maaliw, R. R., Sibbaluca, B. G., Dela Fuente, J. A., & Ramos, A. L. A. (2022). Sociodemographic Profile as Moderators in the Technology Acceptance of Productivity Applications. 2022 IEEE 14th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management, HNICEM 2022, 0–5. <https://doi.org/10.1109/HNICEM57413.2022.10109434>
- Grolnick, W. S. (2023). Extrinsic Incentives/Rewards: Short-Term Fix That Can Undermine Long-Term Motivation. In *Psychology* (Vol. 10). [https://commons.clarku.edu/faculty\\_psychology/10](https://commons.clarku.edu/faculty_psychology/10)
- Gunaratnam, A., Kajenthiran, K., Ratnam, U., & Sivapalan, A. (2017). Factors Influencing on E-Banking Practices: Evidence from Sri Lanka. *Journal of Sociological Research*, 9(1), 1. <https://doi.org/10.5296/jsr.v9i1.11989>
- Hakman, A., Medved, A., Moseychuk, Y., & Muzhychok, V. (2017). Analysis of Features of Motivational Priorities to Recreation and Recreational Activities of Different Groups of People. *Physical Education, Sport and Health Culture in Modern Society*, 2156(2(38)), 85–90. <https://doi.org/10.29038/2220-7481-2017-02-85-90>
- Hapuarachchi, C., & Samarakoon, S. M. (2020). Drivers Affecting Online Banking Usage of Private Commercial Banks in Sri Lanka. *Asian Journal of Economics Business and Accounting*, 19, 71–80. <https://doi.org/10.9734/AJEBA/2020/v19i430314>
- Haslbeck, J. M. B., Borsboom, D., & Waldorp, L. J. (2021). Moderated Network Models. *Multivariate Behavioral Research*, 56(2), 256–287. <https://doi.org/10.1080/00273171.2019.1677207>
- Hennings, C., & Herstatt, C. (2019). Working Paper Belief Elicitation Study : Identifying salient beliefs of patients towards the use of mHealth Working Paper Belief Elicitation Study : Identifying salient beliefs of patients towards the use of mHealth Christine Hennings \*, Cornelius Herstatt. February. <https://doi.org/10.13140/RG.2.2.32461.08165>
- Hossain, S. A., Bao, Y., Hasan, N., & Islam, F. (2020). Perception and prediction of intention to use online banking systems: An empirical study using extended TAM. *International Journal of Research in Business and Social Science*, 9(1), 112–126.
- Indan, R., Andika, R., Ridwan, M., & Darma, R. (2021). The Effect of Usefulness, Ease of Use, Risk, and Trust to Behavioral Intention in the Use of Internet Banking. *UPI YPTK Journal of Business and Economics*, 1(1), 1–15. <https://doi.org/10.35134/jbe.v1i1.6>
- Inder, S., Sood, K., & Grima, S. (2022). Antecedents of Behavioural Intention to Adopt Internet Banking Using Structural Equation Modelling. *Journal of Risk and Financial Management*, 15(4). <https://doi.org/10.3390/jrfm15040157>
- Indriasari, E., Prabowo, H., Gaol, F. L., & Purwandari, B. (2022). Digital Banking. *International Journal of E-Business Research*, 18(1), 1–20. <https://doi.org/10.4018/ijebr.309398>
- Jermisittiparsert, K., Wongsuwan, N., & Akkaya, B. (2023). Subjective Norms and Behavioural Intention of E-Banking Adoption: Mediating Role of Perceived Usefulness. In *Two Faces of Digital Transformation: Technological Opportunities versus Social Threats* (pp. 177–193). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83753-096-020231013>
- K.Srivani, null, & Kiran, K. L. (2019). Disruption of Traditional Financial Services Through Digital Finance --- Global& Indian Perspective. *Journal of Emerging Technologies and Innovative Research*, 6(2), 406–409.

- <http://www.jetir.org/papers/JETIRY006076.pdf><https://www.jetir.org/papers/JETIRY006076.pdf><https://lens.org/016-037-844-646-013>
- Karayanni, M., & Nelken, I. (2022). Extrinsic rewards, intrinsic rewards, and non-optimal behavior. *Journal of Computational Neuroscience*, 50(2), 139–143. <https://doi.org/10.1007/s10827-022-00813-z>
- Kaur, B., & Sharma, R. R. (2022). Factors affecting behavioural intentions to use e-banking services: an extension of TAM in Indian context. . . *International Journal of Business and Globalisation*, 32(4), 414–430.
- Kemp, S. (2023). DIGITAL 2023: SRI LANKA. DATAREPORTAL. <https://datareportal.com/reports/digital-2023-sri-lanka>
- Komanisi, E., Anakpo, G., & Syden, M. (2022). Vulnerability to COVID-19 impacts in South Africa: Analysis of the socio-economic characteristics. *Afr. Agenda*, 19, 10. – 12.
- Krismadinata, K., Jalinus, N., Pitra Rosmena, H., & Yahfizham, Y. (2019). Understanding Behavioral Intention in Implementation of the ICT's Based on UTAUT Model. *Lontar Komputer : Jurnal Ilmiah Teknologi Informasi*, 10(2), 96. <https://doi.org/10.24843/lkjiti.2019.v10.i02.p04>
- Kumar, R., Sachan, A., & Kumar, R. (2020). The impact of service delivery system process and moderating effect of perceived value in internet banking adoption. *Australasian Journal of Information Systems*, 24.
- Kwarteng, M. A., Lerma, D. F. P., Ratilla, M., Novak, P., & Zlamal, L. (2022). Extending the Utaut Model To Understand the Barriers Towards Sme Digitalization. *Serbian Journal of Management*, 17(2), 403–424. <https://doi.org/10.5937/sjm17-37629>
- Lai, P. C. (2017). Security as an Extension to TAM Model: Consumers' Intention to Use a Single Platform E-Payment. *Asia-Pacific Journal of Management Research and Innovation* , 13(3–4), 110–119.
- Lai, P. C., & Liew, E. J. Y. (2021). Towards a Cashless Society: The Effects of Perceived Convenience and Security on Gamified Mobile Payment Platform Adoption. *Australasian Journal of Information Systems*, 25, 1–25.
- Lewis, T. G. (2023). Digital Economy: The Economics of the Digital Economy. *Ubiquity*, 2023(April), 1–13. <https://doi.org/10.1145/3594560>
- Li, Z., & Liu, Y. (2021). Research on the Spatial Distribution Pattern and Influencing Factors of Digital Economy Development in China. *IEEE Access*, 9, 63094–63106. <https://doi.org/10.1109/ACCESS.2021.3075249>
- Lim, S. H., Kim, D. J., Hur, Y., & Park, K. (2019). An Empirical Study of the Impacts of Perceived Security and Knowledge on Continuous Intention to Use Mobile Fintech Payment Services. *International Journal of Human-Computer Interaction*, 35(10), 886–898. <https://doi.org/10.1080/10447318.2018.1507132>
- Madusanka, K. A. E., & Kumari, D. A. T. (2021). Antecedents of Customer Adoption on Digital Banking with Special Reference to Non-Banking Financial Institutes in Sri Lanka. *South Asian Journal of Finance*, 1(1), 61. <https://doi.org/10.4038/sajf.v1i1.28>
- Madushani, S., & Balendran, S. (2020). Factors Influencing on the Usage of Internet Banking in Puttalam District of Sri Lanka. 1, 64–75.
- Malhotra, N., & Kumar Baag, P. (2023). Factors Impacting the Adoption of Online Banking among Self Help Groups in India. <https://doi.org/10.20944/preprints202304.0783.v1>
- Malik, G., Singh, D., & Stakić, N. (2022). Understanding the behavioural intention to adopt Internet banking: An Indian perspective. *The European Journal of Applied Economics*, 19(1), 110–120. <https://doi.org/10.5937/ejae19-35277>
- Mano, W., Anuja, L., Karunakaran, P., Subarami, S., Sathiyaseelan, R., & T H D, L. G. (2020). A Study on Customer Perception towards E-banking: With Special Reference to Urban and Rural Districts in Sri Lanka. *International Journal of Academic Research in Business and Social Sciences*, 10(10), 682–698. <https://doi.org/10.6007/IJARBS/v10-i10/7766>
- Maragaoda, W. S. K. (2019). Customers' motivation to embrace digital banking in Sri Lanka ; A case study of Sampath Bank PLC . <https://unitec.researchbank.ac.nz/handle/10652/4874>
- Mbinkeu, R. C. N. (2016). New Perspectives of Mobile Payment Platform for Developing Countries. In *International Business: Concepts, Methodologies, Tools, and Applications* (pp. 2377–2393). IGI Global. <https://doi.org/doi:10.4018/978-1-4666-5190-6.CH015>
- Merhi M, Hone, K., Tarhini, A., & Ameen, N. (2021). An empirical examination of the moderating role of age and gender in consumer mobile banking use. *Journal of Enterprise Information Management*, 34(4), 1144–1168. <https://doi.org/10.1108/JEIM-03-2020-0092>
- Mohamed Riyath, M. I., Muhammed Rijah, U. L., & Rameez, A. (2022). Students' attitudes on the use of Zoom in higher educational institutes of Sri Lanka. *Asian Association of Open Universities Journal*, 17(1), 37–52. <https://doi.org/10.1108/AAOUJ-11-2021-0130>
- Mukhamedov, F., Maramygin, M., Mokeeva, N., & Rodicheva, V. (2020). Peculiarities of online banking in the framework of ensuring sustainable development of the economy. *E3S Web of Conferences*, 208, 1–7. <https://doi.org/10.1051/e3sconf/202020803027>
- Nayanajith, G., & Joy, R. M. (2019). Website Usability, Perceived Usefulness and Adoption of Internet Banking Services in the Context of Sri Lankan Financial Sector. *Asian Journal of Business and Technology*, 2(1), 28–38.
- Nayanajith, G., Weerasiri, R. A. S., & Damunupola, K. A. (2019). A Review on E-Banking Adoption in the Context of E-Service Quality. *Sri Lanka Journal of Marketing*, 5(2), 25. <https://doi.org/10.4038/sljmuok.v5i2.28>



- Nestor, L., & Nutt, D. (2019). Substance misuse and young people: Reward mechanisms. In *In Substance Misuse and Young People* (pp. 101–117). CRC Press.
- Otten, S., Wilkowska, W., Offermann, J., & Ziefle, M. (2023). Trust in and Acceptance of Video-based AAL Technologies. *International Conference on Information and Communication Technologies for Ageing Well and E-Health, ICT4AWE - Proceedings, 2023-April(Ict4awe)*, 126–134. <https://doi.org/10.5220/0011785500003476>
- Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology on JSTOR. (n.d.). Retrieved August 19, 2021, from <https://www.jstor.org/stable/249008>
- Peter, G. (2024). (2024). Digital Financial Inclusion. . <https://doi.org/doi:10.4324/9781003471073>
- Pham, A. H. T., Pham, D. X., Thalassinou, E. I., & Le, A. H. (2022). The Application of Sem-Neural Network Method to Determine the Factors Affecting the Intention to Use Online Banking Services in Vietnam. *Sustainability (Switzerland)*, 14(10). <https://doi.org/10.3390/su14106021>
- Pikkarainen T, Pikkarainen K, Karjaluoto H, & Pahlila S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research: Electron. Netw. Appl. Policy*, 14(3), 224–235.
- PNasiketha, S., Tham, J., & Khatibi, A. (2023). THE FACTORS INFLUENCING YOUNGSTERS' ACCEPTANCE OF DIGITAL PAYMENTS IN SRI LANKA Article history: Keywords: Youngsters; Adoption; Digital Payment; Acceptance; The Factors Influencing Youngsters' Acceptance of Digital Payments in Sri Lanka Countries. 1–14.
- Polatoglu, V. N., & Ekin, S. (2001). An empirical investigation of the Turkish consumers' acceptance of Internet banking services. *International Journal of Bank Marketing*, 19(4), 156–165.
- Prabodhi, W. A. D., & Buddhika, H. J. R. (2022). profitability ( Malhotra & Singh , ( Olorunsegun , 13(I).
- Rajapakse, D. R. P. C. R. (2017). E-Banking: A Review of Status, Implementation, Challenges and Opportunities. *International Journal of Economics, Business and Management Research* , 1(5), 386–408.
- Revathi, C., & Balaji, P. (2020). Determinants of behavioral intention on e-wallet usage: empirical examination in amid of covid-19 lock down period. *International Journal of Management (IJU)*, 11(6), 92–104.
- Ruwini, S., & Pushpika, G. (2024). Communication and Adoption of Mobile Banking Services in Sri Lanka. *Asian Journal of Economics, Business and Accounting*, 24(3), 147–156. <https://doi.org/10.9734/ajeba/2024/v24i31248>
- Sabraz Nawaz, S., Bt, F., & Yamin, M. (2018a). Sri Lankan Customers' Behavioural Intention to Use Mobile Banking: A Structural Equation Modelling Approach. *Journal of Information Systems & Information Technology (JISIT)*, 2(2), 2478–0677.
- Sabraz Nawaz, S., Bt, F., & Yamin, M. (2018b). Sri Lankan Customers' Behavioural Intention to Use Mobile Banking: A Structural Equation Modelling Approach.
- Sachitra, V., & Dayaratna, D. (2023). Examine the Feasibility of Implementing Blockchain Technology in the Sri Lankan Banking System. *Asian Journal of Advanced Research and Reports*, 17(9), 115–125. <https://doi.org/10.9734/ajarr/2023/v17i9524>
- Salisbury, W. D., Pearson, R. A., Pearson, A. W., & Miller, D. W. (2001). Perceived security and World Wide Web purchase intention. *Industrial Management & Data Systems*, 101(4), 165–177. <https://doi.org/10.1108/02635570110390071>
- Sanjeetha, M. B. F., Nawaz, S. S., Kaliyamoorthy, M., Murshitha, S. M., & Rashida, M. F. (2022). Customer Adoption of Online Banking: An Application of Diffusion of Innovation Theory in Sri Lanka. *Customer Adoption of Online Banking: An Application of Diffusion of Innovation Theory in Sri Lanka*, 573–580.
- Saudjhana, A., & Herman, H. (2023). Behavioral Intention and Adoption of Digital Bank Mobile Application Among Housewives Using Mixed Method Approach. *Journal of Computer Networks, Architecture and High Performance Computing*, 5(1), 288–301. <https://doi.org/10.47709/cnahpc.v5i1.2185>
- Sharma, N., & Dutt, V. (2021). Modeling Decisions from Experience Among Frequent and Infrequent Switchers via Strategy-Based and Instance-Based Models Modeling decisions from experience among frequent and infrequent switchers via strategy-based and instance-based models People in diff. July. <https://doi.org/10.1007/978-3-030-61255-9>
- Sharma, P., & Gupta, D. S. Sen. (2023). Impact of Digitalization on Service Marketing in the Indian Banking Industry. *Gyan Management Journal*, 17(1), 95–104. <https://doi.org/10.48165/gmj.2022.17.1.11>
- Sharma, S. K. (2017). Integrating cognitive antecedents into TAM to explain mobile banking behavioral intention: A SEM-neural network modeling. *Information Systems Frontiers*, 21(4), 815–827. <https://link.springer.com/article/10.1007/s10796-017-9775-x>
- Shpanel-Yukhta, O. (2022). Peculiarities of Digitalization of Financial Services Among Countries By Income Groups: Conclusions for Ukraine. *Three Seas Economic Journal*, 3(3), 73–78. <https://doi.org/10.30525/2661-5150/2022-3-11>
- Siposova, B., Grueneisen, S., Helming, K., Tomasello, M., & Carpenter, M. (2021). Common knowledge that help is needed increases helping behavior in children. *Journal of Experimental Child Psychology*, 201, 104973. <https://doi.org/10.1016/J.JECP.2020.104973>
- Siregar, Z. A., Anggoro, S., Irianto, H. E., & Purnaweni, H. (2022). A Systematic Literature Review: UTAUT Model Research for Green Farmer Adoption. *International Journal on Advanced Science, Engineering and Information Technology*, 12(6), 2485–2490. <https://doi.org/10.18517/ijaseit.12.6.15834>
- Skinner, B. F. (1948). SUPERSTITION IN THE PIGEON. *Journal of Experimental Psychology*, 38, 168–172.
- Söderlund, M. (2023). Moderator variables in consumer research: A call for caution. *Journal of Retailing and Consumer Services*, 73(February). <https://doi.org/10.1016/j.jretconser.2023.103352>
- Srivastava, S., Madan, P., Dey, B., Qadir, A., & Mathew, J. (2022). Impact of destination brand experience on destination advocacy: trust and loyalty as moderators. *Consumer Behavior in Tourism and Hospitality* , 17(4), 576–590.

- Sunny, P. (2018). Determinants of Behavioral Intention To Use Mobile Wallets – a. *Journal of Management (JOM)*, 5(May 2018), 52–62.
- Taylor, S., & Todd, P. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144–176.
- Timberlake, W. (2004). Is the operant contingency enough for a science of purposive behavior? *Behavior and Philosophy*, 197–229.
- Tyas, E. I., & Darma, E. S. (2017). Pengaruh Perceived Usefulness, Perceived Ease of Use, Perceived Enjoyment, dan Actual Usage Terhadap Penerimaan Teknologi Informasi: Studi Empiris Pada Karyawan Bagian Akuntansi dan Keuangan Baitul Maal Wa Tamwil Wilayah Daerah Istimewa Yogyakarta. *Reviu Akuntansi Dan Bisnis Indonesia*, 1(1), 25–35. <https://doi.org/10.18196/rab.010103>
- Ubaidillah, N. Z., Baharuddin, N. N., Kasil, N., & Ismail, F. (2020). Students' Perception of the Use of Technology in Education. *Environment-Behaviour Proceedings Journal*, 5(15), 117–122. <https://doi.org/10.21834/ebpj.v5i15.2374>
- Utrestantix, U., Purwanto, B. M., & Lukito-Budi, A. S. (2022). Role of Desire and Implementation of Intention in the Theory of Planned Behavior: A Bibliometric Analysis. *Binus Business Review*, 13(1), 97–107.
- Vassiliadis, P., Derosiere, G., Dubuc, C., Lete, A., Crevecoeur, F., Hummel, F. C., & Duque, J. (2021). Reward boosts reinforcement-based motor learning. *IScience*, 24(7), 102821. <https://doi.org/10.1016/j.isci.2021.102821>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425–478.
- William Xu, & Adrian Cooper. (2017). +Intelligence: An Engine Driving Industry Digitalization. [http://www.huawei.com/minisite/gci/en/digital-spillover/files/gci\\_digital\\_spillover.pdf](http://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf)
- Windasari, N. A., Kusumawati, N., Larasati, N., & Amelia, R. P. (2022). Digital-only banking experience: Insights from gen Y and gen Z. *Journal of Innovation & Knowledge*, 7(2), 100170. <https://linkinghub.elsevier.com/retrieve/pii/S2444569X22000105>
- Zeynalov, Z. (2023). the Impact of Digital Payments on the Growth of Cashless Payments and the Factors Limiting Access To Financial Services. *Agora International Journal of Economical Sciences*, 17(2), 181–186. <https://doi.org/10.15837/aijes.v17i2.6455>
- Zhan, J., & Huang, W. (2019). People's Behavior of Online Banking and its Influencing Factors. 1, 229–234. <https://doi.org/10.35532/jsss.v1.047>.