International Journal of Accounting & Business Finance
Vol.10, No.2, December 2024 Issue. pp: 45-78

FACTORS INFLUENCING THE SUCCESSFUL ADOPTION OF ONLINE BANKING SERVICES IN SRI LANKA

Herath, H.M.M.N. and Aruppala, W.D.N.
Department of Accountancy, University of Kelaniya, Sri Lanka

Received: January 31, 2024 Revised: October 15, 2024 Accepted: December 23, 2024

Abstract

This study examines the factors that affect the successful adoption of online banking services in Sri Lanka. Despite the many advantages offered by online banking, its acceptance in the country remains low. To address this issue, this research applies the Technology Acceptance Model (TAM) introduced by Davis in 1989, focusing on the key attributes influencing online banking adoption. The study investigates the determinants influencing the effective deployment of online banking services in Sri Lanka, gathering data through a questionnaire distributed among internet banking users. Demographic and correlation analyses were conducted and the impact of independent variables on online banking adoption was assessed through reliability tests and path analysis with Smart PLS software. Findings reveal that factors such as perceived benefit, ease of use, and customer attitudes significantly influence the intention to use online banking services in the country. Moreover, the study highlights the advantages of online banking for both consumers and banks, including convenience, time savings, and cost efficiency. The research suggests that banks should communicate these benefits to customers to increase adoption rates and enhance service quality. The findings offer important insights for Sri Lankan banks and policymakers aiming to promote the usage of online banking and improve financial inclusion.

Keywords: Online Banking, Sri Lanka, Technology Adoption
JEL Classification: G21, O33, M15

Corresponding email: malindah@kln.ac.lk

1 Introduction

The integration of internet technology represents a valuable asset in gaining competitive advantages in business and holds significant relevance in our daily lives. Consumers are drawn to internet technology for its convenience and time-saving efficiency (Gupta et al., 2008; Rahi et al., 2017), which has not only revolutionised commercial processes but also exerted a profound impact on individual lifestyles. In parallel with the development of the World Wide Web (WWW.), internet banking has evolved. The inception of online banking transactions can be traced back to the 1980s when developers engaged in banking database creation began conceptualising innovative ideas. The emergence of online shopping concepts in various enterprises has stimulated the progressive development of these services. The surge in online purchases likely played a pivotal role in fostering the evolution of internet banking or online banking, consequently facilitating easier utilisation of credit cards online (Prasetio & Muchnita, 2022).

Financial institutions have embraced digital banking as a result of ongoing technological improvements. This allows customers to conduct financial transactions using the Internet. This innovation has facilitated the process of banking, making it straightforward, effortless, and accessible for customers. Bauer et al. (2005) elucidates that customers can conveniently carry out financial transactions using their mobile phones and computers via internet banking. To enhance customer convenience, banks have introduced net banking applications that enable customers to conduct all their transactions directly from their phones. According to Norsworthy et al. (2008), effectively using the Internet may greatly empower a firm, resulting in a better brand image and higher consumer loyalty. Hence, thorough focus on operational performance is crucial for service providers, especially in the banking industry. Tarí & Sabater (2004) highlights the significance of client retention for organisations' survival, emphasising that the Internet offers a unique opportunity to recruit customers from anywhere and at any time.

The banking and finance sector of Sri Lanka emerged as an early adopter of Information and Communication Technology (ICT), evolving into one of its most extensive users. The integration of information technology into core business functions within the banking industry commenced in the late 1980s, inducing a transformative shift in the sector. This shift facilitated the provision of advanced financial services to previously underserved segments of

the population, thereby enhancing customer accessibility. While information technology did not necessarily augment customer services, it played a pivotal role in establishing internet infrastructure for commercial purposes in the early 1990s. Subsequently, Internet Commerce emerged in the mid-90s, solidifying its place as a global standard for electronic transactions within the financial services sector. The advent of Internet Banking in late 1998 marked a significant milestone, enabling Sri Lankans to engage in online banking experiences, including credit card payment gateway services over the Internet.

1.1 Challenges and Opportunities within the Sri Lankan Banking Sector

In Sri Lanka, the adoption of online banking presents a distinct set of challenges and opportunities that reflect both the local economic context and technological advancements. One of the primary challenges is the digital divide, which impacts rural and low-income populations who may not have consistent access to the Internet or the necessary technological literacy. This divide is exacerbated by concerns about the security of online transactions, which can deter potential users who are intimidated of fraud and data breaches. Additionally, the varying levels of service quality across different banks and the lack of a unified regulatory framework specific to online banking can hinder consumer confidence and the seamless operation of such services.

Conversely, the opportunities for online banking in Sri Lanka are substantial, driven by a young and increasingly technologically proficient population. The central bank's progressive stance on financial technology is conducive to fostering innovations such as mobile wallets, real-time payments, and blockchain applications, which can expand financial inclusion. Furthermore, the COVID-19 pandemic has accelerated the shift towards digital banking, as consumers and businesses alike seek safer and more convenient banking alternatives. This shift represents a significant growth opportunity for local banks to innovate and improve their digital offerings, thereby enhancing customer satisfaction and operational efficiency. Thus, while challenges persist, the strategic exploitation of these opportunities can markedly transform the financial landscape in Sri Lanka.

1.2 Statement of the Problem

Most of the banks, including government banks, have invested heavily in digital platforms and online banking technologies in the last few years. Amidst the COVID-19 epidemic, there

has been a surge in the demand for online banking. Consequently, banks have made investments and implemented new technologies to improve the efficiency and efficacy of their financial services (Rilwan et al., 2022). Even though there was a tendency for moving towards online banking activities it is observed that customer adoption rate or the customers who are transforming to digital and online banking is at a lower level compared to the total number of customers of these banks.

Despite substantial investments by Sri Lankan financial institutions to enhance Internet Banking services and gain a competitive edge, the adoption rate among customers remains notably low compared to emerging and developed nations. Statistics from Sri Lankan banks indicate a total customer base of approximately 16 million, with only 2 million utilizing Internet Banking services. At People's Bank, while the customer base is around 10 million, Internet Banking usage is limited to 1 million (CBSL). These figures highlight the significant gap in adoption and the challenges associated with promoting Internet Banking usage. Customers, despite recognizing the benefits, are reluctant to transition to online banking. Therefore, it is critical to investigate the factors contributing to the slow adoption of IB services in Sri Lanka, as understanding these factors can guide financial institutions in implementing strategies to improve customer adoption rates (Galhena and Gunawardena, 2022).

By focusing on the problem statement, the following main research question is suggested.

> ***RQ1.*** *What factors influence the successful adoption of online banking services in Sri Lanka?*

This research employs the Technology Acceptance Model (TAM) theory to identify the key factors that impact the adoption of online banking, aligning with the main research question and an analysis of existing literature. The generation of research questions was informed by the Technology Acceptance Model (TAM) and its associated aspects.

1. *Does perceived usefulness influence the behavioural intention to use online banking facilities by Sri Lankan customers?*
2. *Does perceived ease of use influence the behavioural intention to use online banking facilities by Sri Lankan customers?*

3. *Do consumer attitudes mediate the effects of perceived usefulness and perceived ease of use on behavioural intention to use online banking facilities by Sri Lankan customers?*

Based on the aforementioned research questions, the present study aims to investigate the following research objectives:

1. *To investigate the impact of perceived usefulness on behavioural intention to use online banking facilities by Sri Lankan customers.*
2. *To investigate the impact of perceived ease of use on behavioural intention to use online banking facilities by Sri Lankan customers.*
3. *To investigate the mediating effect of consumer attitudes on behavioural intention to use online banking facilities by Sri Lankan customers.*

2 Literature Review

The Internet is one of the technological tools being used by most of the people around the world. This would help people to engage in their daily tasks comfortably. Most of the business sectors also use technology for their business work. The service sector has increasingly embraced new technologies to enhance their businesses. With the growing reliance on technology, the demand for technological products has also surged. As a result, banks have made significant investments in expanding their internet banking services. However, the usage of the internet banking facilities by their customers is slow and low, especially at the introduction stage. Therefore, most of the researchers from different countries tried to find out the reasons for slow and low adoption of internet banking/online banking facilities. Different factors were found out to be influential factors, and studying those factors is useful for customers as well as bankers. Bankers can especially address these negative factors when introducing and promoting online banking facilities to increase the usage rate.

Zhou (2011) underscores the functionality of internet banking, highlighting its capacity to facilitate various banking transactions such as checking balances, ordering cheque books, and executing funds transfers. According to Sadeghi and Hanze (2010), a significant portion of transactions, including utility bill payments, account balance inquiries, and fund transfers,

can be conveniently conducted without the necessity of visiting a physical bank location. Pikkarainen et al. (2004) accentuate the potential for individuals to manage their banking affairs directly from their homes or offices through the utilisation of internet banking services. Additionally, Pasa and Sherman (2001) note that banks extend the capability for users to establish or modify standing orders, generate statements, and request check books via internet banking. Kassean, H., Gungaphul, M., and Murugesan, D. (2012) assert that most banks offer features such as fund transfers between accounts, bill payments to third parties, and account review functionalities through internet banking.

2.1 Online Banking in 21st Century

Online banking presents numerous advantages for both banks and customers, significantly streamlining and expediting banking processes. This technological innovation has considerably enhanced efficiency and accelerated banking transactions for both parties involved. The convenience offered by online banking translates into time savings for customers, eliminating the need for physical visits to banks. Furthermore, it enables international banking and ensures continuous 24/7 service accessibility throughout the year from any location with internet connectivity. Sadeghi and Hanzaee (2010) emphasise the diverse advantages of internet banking, including gaining a competitive edge, retaining customers, attracting new customers, increasing income, and reducing costs. Additionally, the advantages extend to time and cost savings, coupled with the flexibility of conducting transactions from any location. Gerrard and Cunningham (2004) affirm that online banking contributes to cost savings for banks while providing a convenient experience for customers, ultimately benefiting both stakeholders.

In today's ever-changing and fast-paced business environment, banks are actively working to gain a competitive advantage, which requires them to incorporate technology into their operations, as highlighted by Pikkarainen et al. (2004). Internet banking adoption is crucial for banks, as it is often used as a delivery route to provide simplified remote access. According to Keswani and Chaturvedi (2009), internet banking offers a multitude of advantages for both financial institutions and users. Customers possess the capability to partake in financial transactions from any geographical place and at any given moment, so enabling them to prevent the inconvenience of waiting and the constraints imposed by branch

operating hours. Moreover, internet banking is acknowledged as a financially efficient substitute for conventional banking procedures.

According to DeYoung (2005) and Hernando and Nieto (2006), online banking facilities have a beneficial effect on a bank's financial performance. The establishment of an alternate distribution channel enables banks to enhance their revenue by offering supplementary fee-based services. The primary advantage stems mostly from the lowering of overhead costs. The primary avenues for cost reduction include minimising expenses related to maintaining physical branches, reducing marketing expenditures, and lowering labour costs. The reference is from Hernando and Nieto's work published in 2007. Currently, the internet is the most cost-effective means of distributing standardised bank operations, such as account services and financial transfers. Polatoglu and Ekin (2001) found that the mean expense for an online transaction in Turkish online banking was United States Dollars (USD) 0.10, but it was USD 2.1 for a retailer. According to Polasik and Wisniewski (2008), the estimated expense for online bank transfers in Polish banks was USD 0.08, while the cost for in-person bank transfers was USD 0.46. In addition to being cost-efficient, the availability of online banking services enables consumers who are geographically distant from a physical branch to utilise these services, hence creating opportunities for effective cross-selling.

The transition from traditional banking to online banking significantly reduces the cost of processing transactions, enhances the efficiency of payments, and strengthens the interaction between banks and their customers, as noted by Alkailani (2016). Research by Tarhini et al. (2016) demonstrates that the adoption of electronic banking services offers considerable advantages, including increased perceived value, ease of use, along with improved security and privacy measures offered through online banking platforms. E-banking stands as a pivotal tool for both banks and their clients, notably reducing operational costs by cutting down on personnel expenses and diminishing the need for extensive physical branch networks. According to Hernando and Nieto's (2007) publication, online banking can also augment the functionality of traditional bank branches and lead to greater profit margins. Alkailani (2016) points out that internet banking grants users access to a broad spectrum of financial services available around the clock and from any location. The benefits of internet banking extend to reduced operational costs, enhanced quality of service, and increased profitability, as highlighted by Tarhini et al. (2016). This stems mainly from the banks' ability

to expand their service reach across diverse geographic areas, consequently lowering various operational costs, including those related to transaction processing, staffing, and general overheads (Tarhini et al., 2016).

2.2 Factors Influencing Online Banking Usage

Various studies conducted by different nations to investigate the determinants of internet/online banking usage revealed both common and distinct aspects. These criteria varied between countries, time periods, and clients.

Jin Ye and colleagues (2010) conducted a study in Vietnam, revealing that the adoption of online or mobile banking services is positively influenced by factors such as perceived usefulness, trust in the system, and governmental support. Interestingly, their research also indicated that the ease of use of these online banking platforms did not play a significant role in influencing customer decisions to adopt these technologies. This finding is in stark contrast to the conclusions drawn by Ndubisi and Sinti (2006), who identified ease of use as a pivotal determinant. According to Ndubisi and Sinti (2006), the attitudes of customers towards internet banking, alongside the inherent characteristics of the service, are crucial in determining its acceptance among bank customers in Malaysia.

Reducing the emphasis on hedonic features like background music, animated characters, advertisements, and promotional strategies can improve the user experience of internet banking. Likewise, Kaabachi and colleagues (2017) investigated the "initial trust of consumers towards internet-only banks in France." Building trust early on is essential for attracting new customers in France. Factors such as customer familiarity with internet banking, perceived structural reliability, and website quality were identified as the most significant predictors of initial trust, among other factors.

The research conducted by Sikdar and Makkad (2015) is titled "Online banking adoption: A study that validates factors and examines the causation of satisfaction among Indian banking customers." Their research uncovered a substantial correlation between total consumer pleasure and criteria such as trust, usage constraints, user-friendliness, availability, and intention to use. Notably, trust and ease of use were discovered to have significantly smaller and inconsequential effects on overall consumer satisfaction. Sharma and Govindaluri (2014) conducted a study focused on analysing the adoption of internet banking in India. This

research identifies several crucial factors influencing attitudes towards the adoption of internet banking in urban areas of India. These factors include perceived utility, perceived ease of use, social influence, awareness, internet connection quality, and computer self-efficacy.

Polasik and Wisniewski (2008) in their study, Empirical Analysis of Internet Banking Adoption in Poland, identified a strong correlation between the perceived security of internet banking, prior internet usage experience, and demographic factors in the adoption of online banking services. Age was found to be a significant factor in the demographic analysis. Minors and individuals aged 65 and beyond exhibited a diminished inclination to have an internet account. The study also acknowledges gender as a significant factor. Advertising and promotional efforts are crucial in increasing the use of internet and mobile banking, as well as boosting the usage of other financial products. These characteristics significantly impact the utilisation of internet banking.

The study done by Maitlo (2015) has identified five key elements that play a significant role in the acceptance of internet banking. These elements encompass the platform's convenience, perceived risks and security concerns, and the users' pre-existing knowledge and awareness of internet functions. The study demonstrates that information pertaining to online banking positively influences its adoption. Conversely, Shah and Clarke (2009) posited that the primary influences on the uptake of online banking services include the ethos and culture of the organization, along with its infrastructure and technological features.

According to Kumbhar (2011), the popularity of online banking services continues to rise steadily, with numerous factors affecting their acceptance. The adoption of online banking is influenced by several key factors, including age, level of education, gender, cultural background, customer education and awareness, internet availability, openness to change, geographic location, ease of use, convenience, lack of internet usage confidence, inadequate knowledge and assistance, service excellence, and cost efficiency.

Sri Lankan researchers also endeavour to undertake research in the aforementioned area, with the North Eastern region serving as the foundation. According to Shiraj (2015), the acceptance and non-adoption of online banking facilities are influenced by factors such as

perceived benefits, perceived dangers, attitude towards change, user's IT competence, and vocation. Additionally, they placed particular emphasis on variables such as age and gender.

Premarathne and Gunatilake (2016) found that the adoption of internet banking is impacted by several significant factors. The factors encompassed in this context are the availability of internet connectivity, consumer awareness, the structure and substance of websites, security protocols, associated costs, technophobia, download velocity, and customer inclination towards customised services. Perera (2013) conducted a study in the Colombo district of Sri Lanka, primarily examining private banks such as Hatton National Bank, Sampath Bank, and Commercial Bank. The study identifies strong relationships between the adoption of internet banking and variables such as utility, user-friendliness, security, compatibility, and information integrity.

Perera (2016) highlights several critical elements that influence the adoption of online banking, including the level of education, customer trust in internet banking, gender, age, and the convenience offered by online banking services. The analysis showed an increasing trend in the use of internet banking services within Sri Lanka, with a particular focus on customers residing in the Gampaha District. Madumanthi and Nawaz (2016) explores the determinants influencing internet banking acceptance among undergraduate students, drawing samples from five Sri Lankan universities. They found that performance expectations, effort expectations, societal influences, and bandwidth availability are significantly associated with the acceptance of online banking in the country.

Jayasiri and colleagues (2018) pinpoints essential determinants affecting the adoption of online banking in Sri Lanka, such as perceived benefits, ease of use, security concerns, social impacts, and the perceived quality of the system. The research reveals that demographic factors like age, income, and employment hours have a moderate effect on the influence of these determinants on the acceptance of online banking. This study expands upon the Technology Acceptance Model (TAM) by incorporating additional variables, such as perceived dangers and the attributes of banking websites, in order to gain a more thorough understanding of the factors that influence the adoption of online banking services.

3 Methods

3.1 Conceptual Framework

The TAM model, derived from previous research, examines the influence of perceived utility, ease of use, customer attitudes, and behavioural intention on technological acceptance of online banking. TAM was chosen for this study as it provides a strong theoretical underpinning, simplicity, and demonstrated performance in forecasting technology adoption using key characteristics such as Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Its versatility for extensive, context-specific analysis, as well as its excellent predictive potential, make it a popular model for researching technology adoption, notably in situations such as online banking in Sri Lanka.

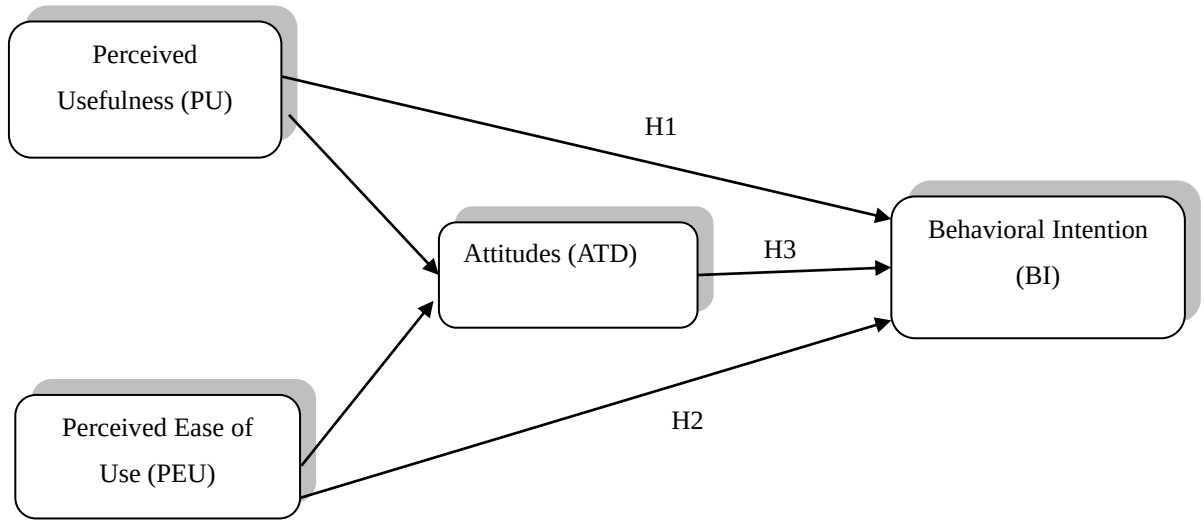

Figure 1: Source - (Davis, 1989); Technology Acceptance Model (TAM**)**

3.2 Hypotheses Development

These hypotheses are based on the research model mentioned above.

3.2.1 Perceived Usefulness (PU)

The construct of perceived usefulness embodies the belief that the adoption of innovative technology can improve job performance. Empirical evidence from studies by Hwang et al. (2011), Kulviwat et al. (2007), and Wu and Wang (2005) underscore the significant influence of technology's perceived benefits on an individual's readiness to adopt it. The paramount

importance of perceived utility in the adoption of new technologies has been firmly established (Hwang et al., 2011; Wu & Wang, 2005). Within the context of organisations, it has been demonstrated that the perceived advantages of technology exert a greater influence on decision-making than its usability (Wu & Wang, 2005). The belief among organisational leaders that a novel technology will boost job efficiency and output is likely to engender favourable attitudes and intentions towards its adoption.

Introduced by Davis in 1989, the Technology Acceptance Model (TAM) suggests that individuals' acceptance and usage of specific information systems are mainly determined by their perceptions of the technology's usefulness and its ease of operation. Perceived usefulness is linked to the external benefits of technology, especially its impact on improving task performance outcomes such as efficiency and effectiveness, as highlighted by Wixom & Todd in 2005. Conversely, perceived ease of use relates to the inherent attributes of information systems, focusing on aspects such as user-friendliness, adaptability, and clarity, as investigated by Gangwar et al. (2015). Subsequent research by Park et al. (2009) and Shaikh and Karjaluoto (2015) has further examined how perceived usefulness affects users' attitudes and intentions regarding technology adoption.

Furthermore, the TAM elucidates that a system's usability directly affects its perceived utility, as easier-to-use systems necessitate less effort for performing tasks (Kuo & Lee, 2009). Research by Amoako-Gyampah and Salam (2004) indicates a greater likelihood of individuals adopting a Business Data Analytics (BDA) system when they perceive it as beneficial.

H_1: Perceived usefulness (PU) positively influences the behavioural intention to use online banking facilities by Sri Lankan customers.

3.2.2 Perceived Ease of Use (PEU)

The concept of ease of use is related to the perceived simplicity and clarity with which an individual can adopt new technology. Prior to the adoption of any innovative technology, it is crucial for individuals to assess its complexity and the ease with which it can be assimilated into existing workflows. The likelihood of technology adoption increases if individuals anticipate that it will simplify rather than complicate their tasks (Lee et al., 2012). In the

context of the fast-paced evolution of technology and intricate work environments, managers are inclined to prefer innovations that are perceived as flexible, understandable, controllable, and user-oriented (Kuo & Lee, 2009).

The relationship between perceived ease of use and the willingness to adopt technology has been consistently established in studies, including those conducted by Ayeh et al. (2013), Kim et al. (2013), and Zailani et al. (2015), which highlight the significant role of ease of use in influencing users' technology adoption decisions. These studies have highlighted that the perception of a technology as user-friendly can have a direct or indirect effect on the motivation to utilise it across various scenarios (Ayeh et al., 2013). Gangwar et al. (2015) identifies scenarios in which ease of use had an indirect effect on the intention to adopt by influencing perceptions of usefulness. Preliminary evidence suggests that the perceived straightforwardness of a technology's use can have a positive impact on an individual's attitude towards its adoption, independent of the technology's inherent merits. Furthermore, the indirect effect of perceived ease of use implies that technologies deemed simpler to operate are also likely to be regarded as more beneficial, thus fostering a more favourable attitude and a stronger intention towards embracing the innovation (Davis, 1989).

H_2: Perceived ease of use (PEU) positively influences the behavioural intention to use online banking facilities by Sri Lankan customers.

3.2.3 Attitudes towards using technology (ATD)

Park (2000) suggests that to gauge an individual's propensity to undertake a specific action, it is necessary to evaluate their subjective norms and attitudes. According to the Theory of Reasoned Action (TRA), attitudes encompass an individual's positive or negative evaluations regarding a particular matter. In alignment with the Technology Acceptance Model (TAM), Lin and associates (2011) contend that an individual's stance on adopting technology profoundly affects their readiness to employ such technology. This viewpoint is reinforced by findings from research, such as that conducted by Amoako-Gyampah & Salam (2004), which uncover a strong association between an individual's attitude towards novel technology and their usage intentions.

Within the TAM framework, attitudes act as intermediaries linking one's perceptions to their intentions to perform, mirroring their role within the Theory of Reasoned Action. However, it is important to recognise that certain studies, including those by Padilla-Meléndez et al. (2012), have pointed out that the link between attitude and the intention to act may not consistently hold significant sway.

H_3: Consumer Attitudes (ATD) mediates the impacts of Perceived ease of use (PEU) and Perceived usefulness (PU) on behavioural intension to use online banking facilities by Sri Lankan customers.

3.2.4 Behavioural Intention (BI)

Behavioural intention signifies an individual's level of readiness and commitment to adopt a particular technology or system, reflecting a conscious decision and eagerness to engage in that action. The Technology Acceptance Model (TAM) defines behavioural intention as the expressed readiness or probability of an individual to undertake a specific action, particularly with regard to the adoption or utilisation of technology or information systems. This notion is pivotal for grasping the dynamics of technology adoption, as it plays a significant role in dictating the eventual use or implementation of the technology under consideration.

Within the framework of TAM, the eventual utilisation of an information system is contingent upon the user's intention to use that system. Such intentions are informed by the user's favourable perceptions and attitudes towards the advantages the system offers. A multitude of research has investigated the manner in which these two primary beliefs—perceived utility and simplicity of use—contribute to shaping behavioural intentions as per the TAM model. As highlighted by Amoako-Gyampah and Salam (2004), gaining a deep understanding of these belief structures is vital for crafting effective organizational strategies that promote the adoption and practical use of innovative information systems. Adopting this perspective is crucial for encouraging a predisposition towards embracing information systems, which in turn, leads to tangible usage actions (Liao & Tsou, 2009).

3.3 Measurement of Variables

Variables are measured using 5-point Likert scale questions developed for each variable of the model. Questions are obtained from similar and validated questionnaires in literature

(Aldás-Manzano et al., 2009; Al-Jabri & Roztocki, 2015; Cheng et al., 2006; Patel & Patel, 2017).

3.4 Population and Sample

The population of the study includes all online banking users of Sri Lankan banks. And the sample of the study contains hundred and forty-nine (149) respondents; online banking users representing all three districts of Western Province (Gampaha, Kalutara and Colombo) of Sri Lanka. Convenient sampling methods are applied to collect data for this study. The sample includes respondents representing both government and private banks of Sri Lanka.

4 Results

This study utilises many approaches to analyse data. Demographic analysis and correlation analysis are performed using SPSS to determine the demographic characteristics and associations among variables. Furthermore, the Smart PLS programme is utilised to conduct reliability testing and path analysis, which allows for the examination of the impact of independent variables and mediating variables on the dependent variable.

4.1 Demographic Analysis

Demographic analysis of online banking users involves examining the characteristics and profile of individuals who use online banking services. Information was collected by a questionnaire, focusing on eight selected demographic characteristics. The demographic characteristics taken into account during data collection include gender, age, marital status, income level, employment status, educational level, residential area (urban, rural, semi-urban), and district of residence. The number of respondents of the study is hundred and forty-nine (149) and it includes online banking customers representing both government and private banks in the Western province.

Table 1: Demographic Analysis of Online Banking Users

Demographic Factor	Frequency	Percent
Gender		
-Male	68	45.6
-Female	81	54.4
Age Distribution		

-18-25	13	8.7
-26-35	65	43.6
-36-45	40	26.8
-46-55	23	15.4
More than 55	8	5.4
Marital Status		
-Married	115	77.2
-Unmarried	34	22.8
Levels of the Income		
-Less than 40,000	14	9.4
-40,000 - 100,000	54	36.2
-100,000 - 200,000	69	46.3
-200,000 - 300,000	9	6.0
-More than 300,000	3	2.0
Employment Status		
-Student	11	7.4
-Self Employed	11	7.4
-Employed	125	83.9
-Unemployed	2	1.3
Level of Education		
-Secondary	61	40.9
-Bachelor's degree /Professional	64	43.0
-Master's degree	21	14.1
-Doctoral degree	3	2.0
Area of Residence		
-Urban	65	43.6
-Rural	21	14.1
-Semi Urban	63	42.3
District wise Distribution		
-Colombo	62	41.6
-Gampaha	47	31.5
-Kalutara	40	26.8
Duration of Usage of Online Banking Services	55	36.9
-1-2 years	43	28.9
-3-4	36	24.2
-5-6	9	6.0
-7-8	6	4.0
-9-10		

According to Table 1, the sample composition reveals a notable gender disparity, with 54.4% of respondents being female and 45.6% being male. Regarding age distribution, most participants fall within the 26 to 35 age range, comprising 43.6% of the sample, followed by the 36 to 45 age group at 26.8%. The age groups of 46 to 55, 18 to 25, and over 55 represent 15.4%, 8.7%, and 5.4%, respectively. A significant portion of the sample is married (77.2%), while unmarried individuals constitute 22.8%. The dominant income categories are Sri

Lankan rupees (LKR) 40,000 to LKR 100,000 and LKR 100,000 to LKR 200,000, collectively representing 82.5% of the sample. Employment status shows that 83.9% are employed, 7.4% are self-employed, 1.4% are unemployed, and 7.4% are students. In terms of education, 43.0% have a bachelor's degree, 40.9% have secondary education, 14.6% have master's degrees, and only 2.0% have doctoral degrees. Geographically, 43.6% are urban residents, 42.3% are from semi-urban areas, and 14.1% are from rural areas in the Western province. The distribution of respondents across Colombo, Gampaha, and Kalutara districts is 41.6%, 31.5%, and 26.8%, respectively.

Additionally, it emphasises the online banking usage patterns among respondents. A noteworthy finding is that most participants are relatively new users of online banking, with less than 35% utilising it for more than five years. Specifically, 36% fall into the 1-2-year category, 28% have been using it for 3-4 years, and 24% for 5-6 years. Only a small percentage (10%) has been utilising online banking for more than 7 years. This highlights a significant influx of new users in the 1-2-year category. The demographic profile analysis serves as a crucial foundation for interpreting and generalising findings in the subsequent advanced analyses exploring relationships and impacts of variables related to online banking adoption among customers.

4.2 Correlation Analysis

Correlation analysis is a statistical tool used to determine the strength and direction of the relationship between two or more variables, aiming to identify potential connections between changes in these variables. The correlation coefficient, denoted as 'r', ranges from -1 to +1. A positive coefficient indicates a direct relationship, where an increase in one variable corresponds to an increase in another. Conversely, a negative coefficient signifies an inverse relationship, meaning as one variable increases, the other decreases. A coefficient of zero suggests no relationship between the variables. This research will employ correlation analysis to examine the relationships among variables.

The study employed Pearson's correlation coefficient to measure the correlation. Measuring correlation is helpful since it provides information about both the strength and direction of the relationship.

Table 2: Correlation Analysis

	Perceived usefulness	Perceived Ease of Use	Attitudes
Perceived Ease of Use	.578**		
Attitudes	.385**	.555**	
Behavioural Intention	.551**	.746**	.517**

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between perceived ease of use and perceived usefulness is positively correlated and statistically significant (r = 0.578). This suggests that individuals who see a system or product as easy to use are more inclined to view it as valuable. Furthermore, there exists a strong and statistically significant association between attitudes and perceived ease of use, with a correlation coefficient of 0.385. These findings indicate that those with a greater inclination towards positivity are more inclined to discover a system or product that is user-friendly. The findings demonstrate a strong and statistically significant association between attitudes and perceived ease of use (r = 0.555). This suggests that persons with more favourable sentiments are more inclined to regard a system or product as being user-friendly.

Moreover, there exists a strong and statistically significant association (r = 0.551) between behavioural intention and perceived usefulness. Individuals having a greater inclination to participate in a behaviour are more likely to discover a system or product that is more beneficial. Conversely, there is a strong and statistically significant relationship between behavioural intention and perceived ease of use, with a correlation coefficient of 0.746. This demonstrates a robust positive correlation, indicating that persons with a greater inclination to participate in a behaviour are more inclined to perceive a system or product as user-friendly. There is a strong and meaningful relationship between behavioural intention and attitudes, with a correlation coefficient of 0.517. These findings indicate that those who possess more favourable views are more inclined to have a greater intention to participate in a specific behaviour. All associations exhibit statistical significance.

The correlations show positive associations between perceived ease of use, usefulness, attitudes, and behavioural intention, with robust connections between behavioural intention and perceived ease of use.

4.3 Analysis of the research model using Structural Equation Modelling

Accordingly, this study also employs SEM to examine the effects of latent variables on observed variables. The Smart PLS software is used to analyse the data. Testing the model's validity is conducted at first, which is then followed by a path coefficient analysis and probability testing to identify effects and significance of variables. Additionally, the mediating effect is also investigated as the model has a mediating variable.

4.3.1 Testing Model Validity

Model validation is performed by examining the Indicator Reliability which was tested using Factor Loadings.

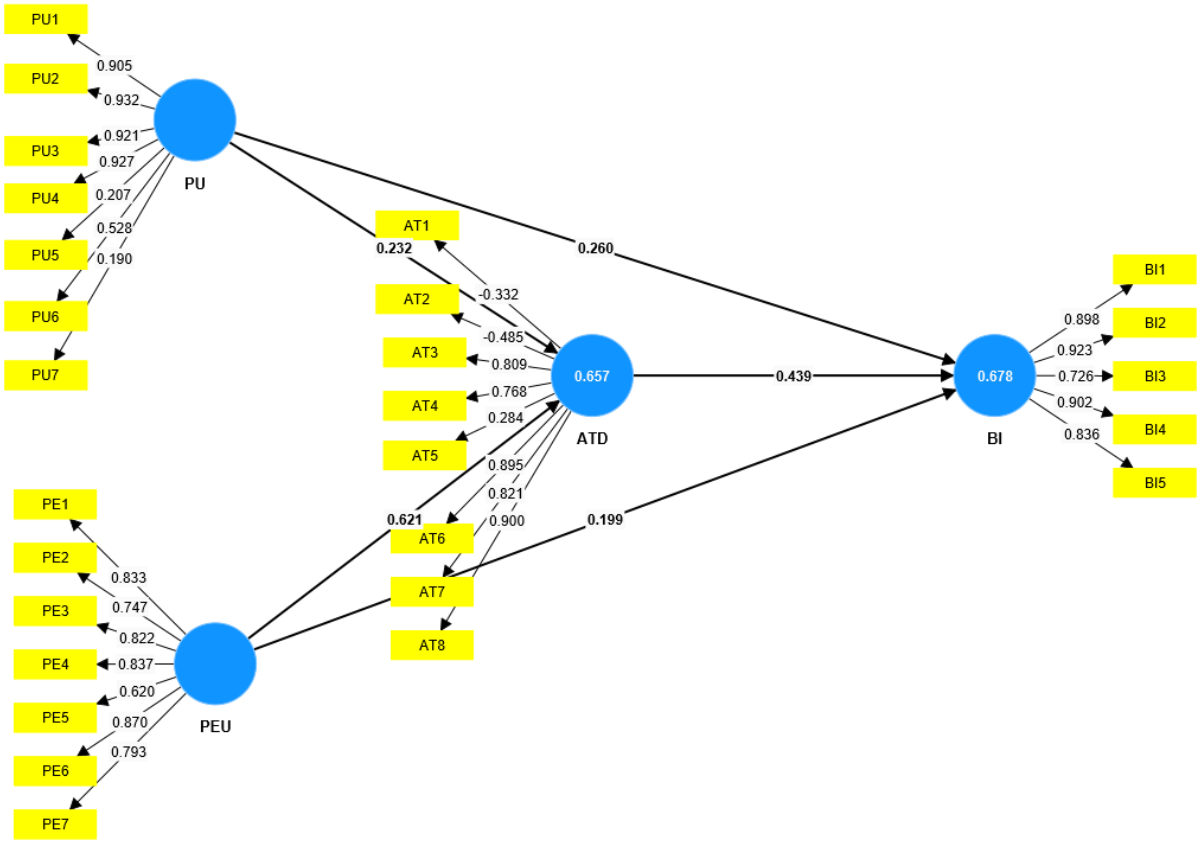

Figure 2: Factor Loadings of the Initial model

The initial model contains all factors of variables. As per the factor loadings generated, indicator reliability of some factors is identified as less than 0.6. for a validated model factor

loadings of each variable to be greater than 0.6 at least. Therefore, these factors are to be removed from the model to ensure the reliability and validity of the final model. Accordingly, 5,6,7 factors of Perceived Usefulness variable and 1,2 and 5th factor of Attitude variable are removed. All the other factors of latent and observed variables satisfy the quality criteria.

After removing those factors, model validity was tested using construct reliability and validity and then discriminant validity was tested.

Table 3: Construct Reliability and Validity

	Cronbach's alpha	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
ATD	0.904	0.914	0.929	0.723
BI	0.91	0.925	0.934	0.739
PEU	0.899	0.906	0.921	0.628
PU	0.951	0.951	0.964	0.871

According to the Composite Reliability (hoc) values all numbers are greater than 0.5. Thus, the model achieves construct validity.

Table 4: Discriminant Validity – HTMT Matrix

	ATD	BI	PEU	PU
ATD				
BI	0.846			
PEU	0.878	0.816		
PU	0.724	0.765	0.801	

As per Heterotrait Monotrait Ratio (HTMT) all values are lower than 0.9. and it depicts that no issue is found for discriminant validity of the model.

Table 5: Discriminant Validity – Fornell-Larcker criterion

	ATD	BI	PEU	PU
ATD	0.85			
BI	0.779	0.86		
PEU	0.801	0.745	0.793	
PU	0.681	0.722	0.744	0.933

Further Fornell Larcker criterion values also support the same finding by presenting lower values by all other subsequent variables in each variable. Accordingly, no discriminant validity problem exists in this analysis.

4.3.2 Analysis of Path Coefficients – Testing the Direct Effect of Latent Variables without Mediation

Examining path coefficients entails a comprehensive analysis of the direct impacts between latent variables in a structural equation model. The coefficients in the model measure the magnitude and direction of the correlations between latent variables, offering significant insights into the direct impact one variable has on another. Through careful examination of these route coefficients, researchers can evaluate the importance and size of the direct impacts, thus enhancing their comprehension of the complex interaction among the fundamental concepts in the study framework. This analytical procedure facilitates the interpretation of the individual impacts of each latent variable on the overall model and enhances the development of theoretical frameworks within the context of structural equation modelling.

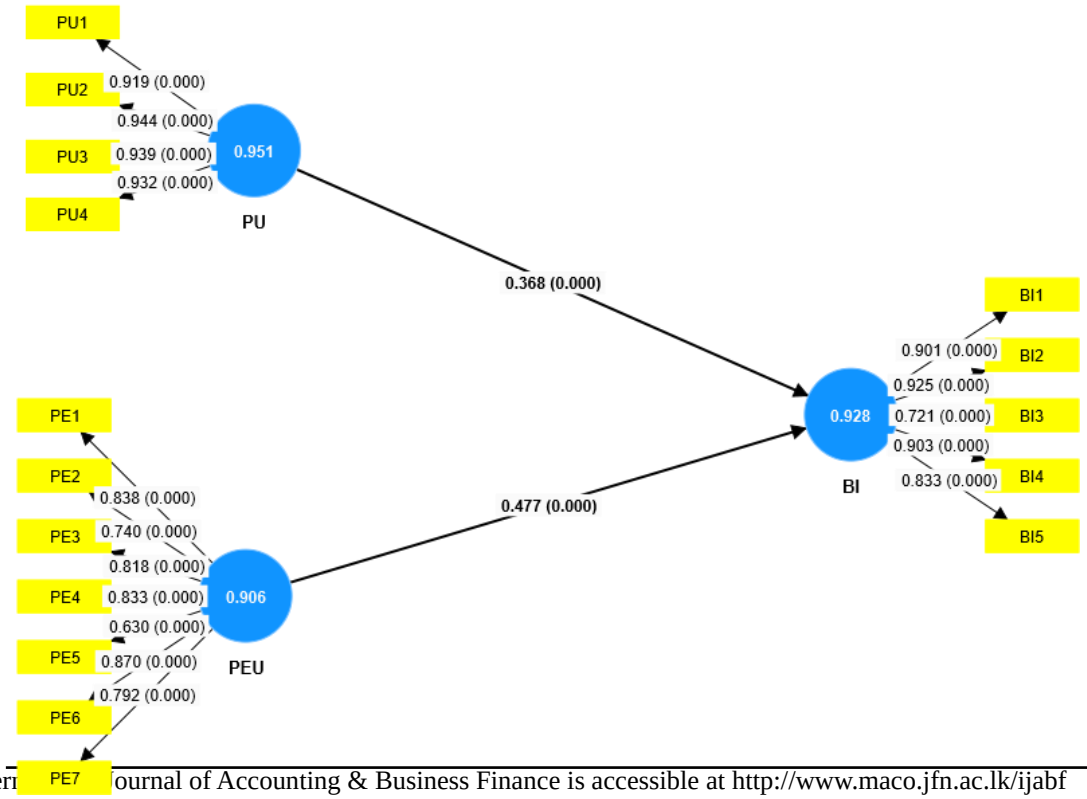

Figure 3: PLS and BT of the model with no mediation

The study utilises Partial Least Square (PLS) analysis to determine the path coefficients of variables. Additionally, a Bootstrapping test was conducted to assess the of factors and relationships of the model.

As per the model developed, both direct effects are significant and both variables; perceived usefulness and perceived ease of use have positive effect on behavioural intention. The coefficient values of perceived usefulness and perceived ease of use are 0.368 and 0.477 respectively and both are statistically significant as P values are almost zero (0.000). And all factors of the direct model are statistically significant. As per the direct impact if perceived usefulness increases by 1% behavioural intention increased by 36.8% and vice versa. If perceived ease of use increased by 1% behavioural intension will increase by 47.7%. It depicts that both variables have a considerable level of impact on behavioural intension.

4.3.3 Analysis of Path Coefficients – Testing the Mediation Effect

Mediation testing explores the intermediate processes through which an independent variable influences a dependent variable. In this context, path coefficients help elucidate the strength and significance of the indirect pathways involving mediating variables. By systematically assessing these coefficients, researchers can discern the extent to which the effect of an independent variable on a dependent variable is mediated by an intermediary construct. This analysis is crucial for unravelling the underlying mechanisms and understanding the intricate dynamics that shape the relationships within the research model. The identification and validation of mediation effects contribute to a more comprehensive and nuanced interpretation of the complex pathways and interactions embedded in structural equation modelling.

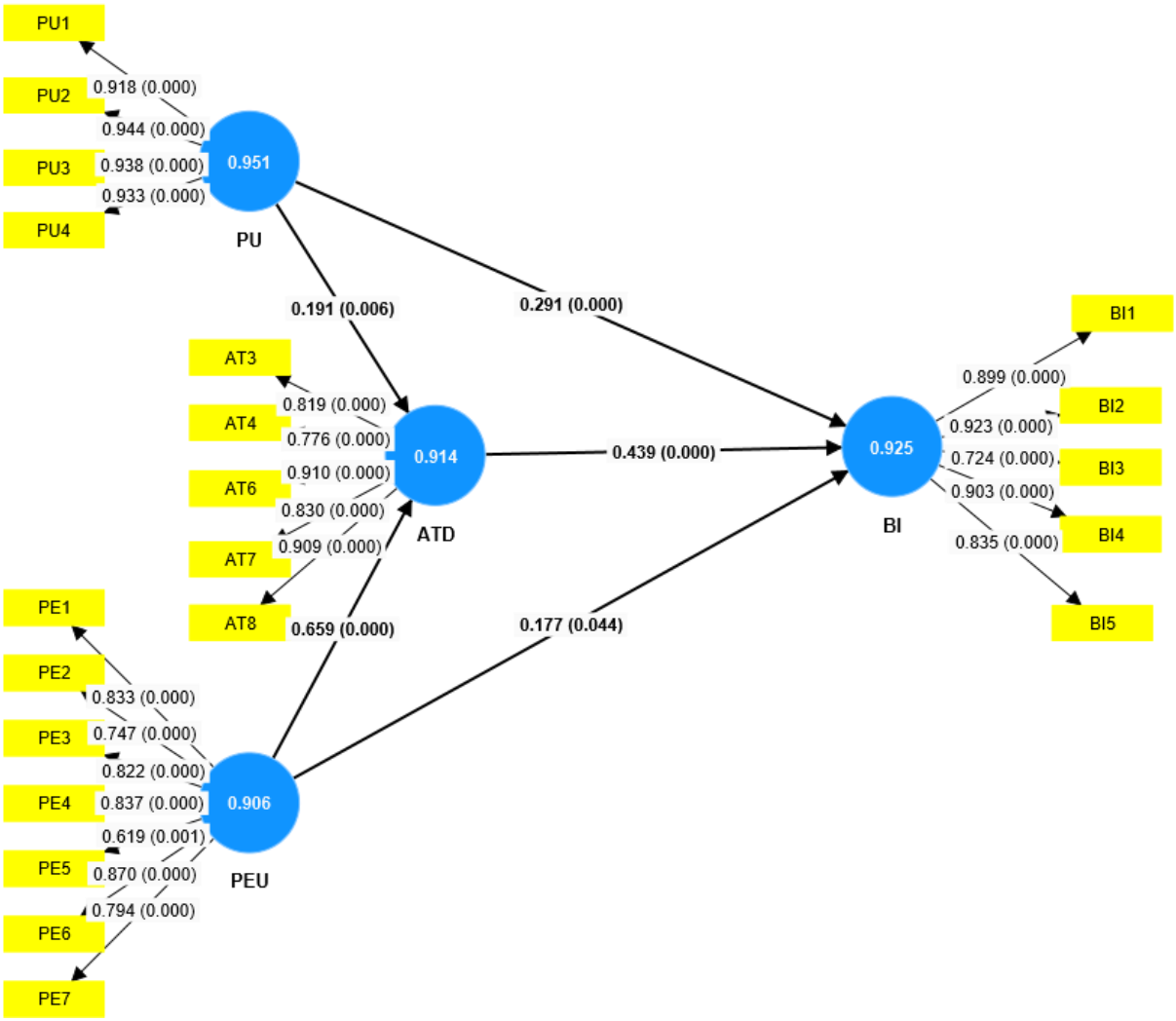

Figure 4: PLS and BT of the model with the mediation

The final model which is developed incorporating the mediating effect is presented in figure 4. As per the findings all effects are positive and are statistically significant. And the model clearly shows that the mediation effect is higher compared to the direct effects in the final model. Compared to the statistics previously obtained by direct effect testing, in this model the strength of the effect has reduced, and it depicts that there is a significant mediation by the mediating variable in this model. The coefficient of the mediating effect is 0.439 and it is statistically significant. And coefficients of direct effect have reduced in both variables as 0.291 for perceived usefulness and 0.177 for perceived ease of use. Previously these values were 0.368 and 0.477 respectively. However, all effects are statistically significant. Thus, the final model presents a partial mediation. Accordingly, the attitudes of customers don't fully

mediate the relationship between perceived usefulness and perceived ease of use and behavioural intention of online banking customers.

This analysis is further supported with the statistics of below tables on path coefficients of the model.

Table 6: Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
ATD -> BI	0.439	0.448	0.096	4.565	0
PEU -> ATD	0.659	0.662	0.071	9.236	0
PEU -> BI	0.177	0.166	0.104	1.706	0.044
PU -> ATD	0.191	0.184	0.077	2.495	0.006
PU -> BI	0.291	0.291	0.081	3.568	0

As per table 6, all path coeffects are statistically significant. The P value of perceived ease of use and behavioural intention is much closer to 0.05 but still lesser than it as the value is 0.44.

However, it depicts that the indirect effect with the mediation is not that significant compared to the direct effect of perceived ease of use on behavioural intension. If it was not significant, the mediation effect of attitudes become a fully mediation. However, with the available statistics it is less than 0.05 and it can be interpreted as a partial mediating in the final model.

Table 7: Total Effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
ATD -> BI	0.439	0.448	0.096	4.565	0
PEU -> ATD	0.659	0.662	0.071	9.236	0
PEU -> BI	0.467	0.465	0.08	5.818	0
PU -> ATD	0.191	0.184	0.077	2.495	0.006
PU -> BI	0.375	0.372	0.087	4.295	0

As per table 7, all total effects are statistically significant as all p values are less than 0.05.

Table 8: Total Indirect Effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
PEU -> BI	0.289	0.299	0.079	3.661	0
PU -> BI	0.084	0.081	0.036	2.351	0.009

Table 8 presents the statistics of indirect variables. Accordingly, both paths are significant.

Table 9: R – Square Values

	R2	R2 adjusted
ATD	0.657	0.653
BI	0.684	0.678

The model's R-square statistics are presented in Table 9. The combined factors of perceived utility and perceived ease of use account for 65% of the dependent variable, which is the attitudes of customers. 67% of the behavioural intention can be attributed to customer attitudes, which serve as a partial mediator between perceived usefulness and perceived ease of use. Both numbers indicate that the model is accepted and has statistical significance.

4.4 Hypotheses Testing

Path coefficients and probability values are used to test hypotheses of this study. Table 10 presents the hypotheses testing results.

Table 10: Results of Hypotheses Testing

Hypotheses	**Coefficient (P - Value)**	**Decision**
H1: Perceived usefulness (PU) positively influences the behavioural intention (BI)	0.291 (0.000)	Accepted
H2: Perceived ease of use (PEU) positively influences the behavioural intention (BI)	0.177 (0.000)	Accepted
H3: Consumer Attitudes (ATD) mediates the impacts of Perceived ease of use (PEU) and Perceived usefulness (PU) on behavioural intension (BI)	0.439 (0.000)	Accepted

Based on the positive and statistically significant outcomes, it may be inferred that all of the study's hypotheses are accepted. The results indicate that the linkages and effects described in the hypotheses have been confirmed by data analysis, providing empirical support for the theory under investigation. The study found that perceived utility, perceived simplicity of use, and customer attitudes have a positive and statistically significant impact on the behavioural intention of online banking clients. The congruence between the expected outcomes of the investigation and the actual outcomes provides evidence for the credibility and consistency of the research findings, therefore confirming the basic assumptions stated in the hypotheses.

5 Conclusion and Recommendation

This study examines the factors that impact the successful execution of online and internet banking in Sri Lanka. The study acquired valuable insights by employing a comprehensive questionnaire and assessing data through demographic analysis, correlation analysis, and structural equation modelling. The findings demonstrated that some variables within the TAM model exerted a significant impact on the adoption of online and internet banking services in Sri Lanka.

The research outcomes reveal that the selected variables are significantly connected with the adoption rate of online banking in Sri Lanka, showing a strong linkage between each considered variable. The study highlights the significant roles of Perceived Ease of Use (PEU) and Perceived Usefulness (PU) as primary independent variables. It identifies Consumer Attitudes (ATD) as a pivotal intermediary variable and Behavioural Intention (BI) as the end goal variable. The findings demonstrate that consumer attitudes serve as a crucial bridge mediating the effects of perceived usefulness and ease of use on the behavioural intentions of consumers. While perceived ease of use has a lesser impact compared to perceived usefulness, both influences are nonetheless statistically meaningful. This scenario suggests a partial mediation effect within the model. The study explores how consumers' attitudes partially shape the connection between the perceived benefits and ease of using online banking and their readiness to engage with it. By examining the clientele of both government and commercial banks in Sri Lanka, this research aims to validate the efficacy of the Technology Acceptance Model (TAM) in the Sri Lankan context.

Further, as per the findings of demographic analysis, it was noted that online banking usage gradually increased during the last two or three years. As per the data collected, most of the customers have started to use online banking recently. When banks introduced online banking, there were only few customers who used online banking facilities. Also, most users were between the age of 26 to 45 years old, which depicts that most of the middle-aged people engage with online banking facilities. Also, most of the sample are middle income people, this may be due to the greater percentage of middle-income population of the country and that is showcased in this sample as well. Accordingly, the monthly salary of most respondents is between Rs.40 000 to 200 000/=. It reveals that most of the Sri Lankans use online banking for daily transactions rather than for deposits and cheques payments.

At the initial stage, banks had to invest huge amounts of money to introduce online banking facilities to their customers. To face the competition and to provide services for the new generation of customers, investing in new technologies is a must in the current context. Hence investment in online banking facilities and development of the are to be continuously improved. Banks can promote more and more customers to use online banking facilities, so that the cost per transaction would be lower. Hence, the factors that influence customers to use online banking are very crucial to increase the number of customers who are using the online banking facilities. They influence efficiency and effectiveness of online banking facilities too.

5.1 Implications of the Study

It is very important for the banks' management to address the main factors identified by the researcher when introducing and improving online banking facilities and more prominently when promoting online banking facilities. When promotional advertisement has been prepared, those should be designed in a way that they induce and increase the behavioural intention of the customers. It should be emphasized that the use of internet banking is not difficult, and it is very simple to use and through this Perceived ease of use can be increased. It should be communicated to customers on the number of benefits that can be obtained using online banking facilities instead of using branch banking or conventional banking facilities. Through these steps, banks can increase the number of their customers who are using the online banking facilities and through this bank can reduce their transaction cost, staff cost and finally the Return on Investment (ROI) of Banks can be increased. Cost savings can be

utilized for better customer service and through this competitive advantage can be obtained and the survival of the banks can be assured.

It is important for the banks' management to address the main factors identified by the researcher when introducing, improving and especially promoting online banking facilities. Promotional materials should be prepared in a way that they induce and increase the behavioural intention of the customers. They should highlight the fact that online banking is simple and user-friendly, thus increasing the Perceived ease of use. Customers must be clearly informed about the number of benefits that can be gained through online banking instead of using conventional banking. Through these steps, banks can increase the number of customers who are using online banking facilities, reduce their transaction cost, staff cost and finally increase the Return on Investment (ROI). Cost savings can be utilised for better customer service, and this competitive advantage in another way assures the survival/ sustainability of the bank.

Further, specific strategies to enhance the adoption of online and internet banking services in Sri Lanka can be implemented by focusing on the critical factors identified. Accordingly, banks in Sri Lanka can improve online banking adoption by focusing on enhancing perceived usefulness and ease of use. Investments in user-friendly interfaces and emphasising benefits like convenience and time saving are crucial. Marketing should target middle-aged, middle-income individuals, addressing their specific needs and educating them about online banking. Continuously gathering customer feedback to refine services will ensure that they meet evolving expectations, increase adoption rates and reduce transaction costs.

5.2 Limitations and Future Research Directions

Usually, quantitative research methodology requires a large sample size. However, due to the lack of time conducting large-scale research was not practical in this study. Therefore, the sample of this study is limited only to hundred and forty-nine respondents. Also, the time spent on this research was limited. In addition, the questionnaire of the study carries 5-point Likert scale questions. It would be much better if the questionnaire is developed with 7-point Likert scale to have much improved responses to obtain enriched results as this study employs SEM at Smart PLS. Also, the sample of this study is limited to the Western province of the country thus there are limitations when generalising these results to the country. On the

other hand, factors selected may not cover all the factors that affect the usage of online banking facilities. Variables were limited only to those in the TAM model, however, there may be several other factors that influence the usage of online banking facilities.

This study can be further improved by eliminating these limitations. Use of more appropriate sampling methods and expanding the sample beyond the Western province to include respondents from other parts of Sri Lanka will provide a deeper understanding of online banking use across the country. Considering a 7-point Likert scale for more nuanced comments and validating the questionnaire for a developing country context is also important. Expanding the TAM model to include more aspects and a broader range of variables will provide more comprehensive understanding of online banking uptake in Sri Lanka.

References

Aldás-Manzano, J., Lassala-Navarré, C., Ruiz, C., & Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing*, *27*(1), 53–75. https://doi.org/10.1108/02652320910928245

Al-Jabri, I. M., & Roztocki, N. (2015). Adoption of ERP systems: Does information transparency matter? *Telematics and Informatics*, *32*(2), 300–310. https://doi.org/10.1016/j.tele.2014.09.005

Alkailani, M. (2016). Factors affecting the adoption of internet banking in Jordan: An extended TAM model.

Amoako-Gyampah, K., & Salam, A. (2004). An extension of the technology acceptance model in an ERP environment. *Information & Management*, *41*(5), 731–745. https://doi.org/10.1016/j.im.2003.08.010

Ayeh, J., Au, N., & Law, R. (2013). Predicting the intention to use consumer-generated media for travel planning. *Tourism Management*, *35*, 132–143. https://doi.org/10.1016/j.tourman.2012.06.010

Bauer, H., Reichardt, T., Barnes, S., & Neumann, M. (2005). Driving consumer acceptance of mobile marketing: A theoretical framework and empirical study. *Journal of Electronic Commerce Research*, *6*(3), 181–192.

Cheng, T. C. E., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of internet banking: An empirical study in Hong Kong. *Decision Support Systems*, *42*(3), 1558–1572. https://doi.org/10.1016/j.dss.2006.01.002

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

DeYoung, R. (2005). The performance of internet-based business models: Evidence from the banking industry. *The Journal of Business*, *78*(3), 893–948. https://doi.org/10.2139/ssrn.376821

Galhena, B. L., &; Gunawardena, K. A. T. P. P. (2022). Drivers of Intention to Use Internet Banking: Unified Theory of Acceptance and Use of Technology Perspective. *Wayamba Journal of Management*, *13*(1), 181-208. https://doi.org/10.4038/wjm.v13i1.7558.

Gangwar, H., Date, H., & Ramaswamy, R. (2015). Understanding determinants of cloud computing adoption using an integrated TAM-TOE model. *Journal of Enterprise Information Management*, *28*(1), 107–130. https://doi.org/10.1108/JEIM-08-2013-0065

Gerrard, P., & Cunningham, J. (2004). Consumer switching behavior in the Asian banking market. *Journal of Services Marketing*, *18*(3), 215–223. https://doi.org/10.1108/08876040410536512

Giovanis, A. N., Binioris, S., & Polychronopoulos, G. (2012). An extension of TAM model with IDT and security/privacy risk in the adoption of internet banking services in Greece. *EuroMed Journal of Business*, *7*(1), 24–53.

Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. *The Journal of Strategic Information Systems*, *17*(2), 140–154. https://doi.org/10.1016/j.jsis.2007.12.004

Hernando, I., & Nieto, M. (2006). Is the internet delivery channel changing banks' performance? The case of Spanish banks. *Journal of Banking & Finance*, *31*(4), 1083–1099. https://doi.org/10.1016/j.jbankfin.2006.10.011

Hwang, G.-J., Wu, P., Zhuang, Y., & Huang, Y.-M. (2011). Effects of the inquiry-based mobile learning model on the cognitive load and learning achievement of students. *Interactive Learning Environments*, *21*(3), 1–17. https://doi.org/10.1080/10494820.2011.575789

Jayasiri, N. K., Gunawardana, K., & Dharmadasa, P. (2018). Adoption of internet banking in Sri Lanka: An extension to technology acceptance model. *SSRN Scholarly Paper 3139366*. https://papers.ssrn.com/abstract=3139366

Jin Ye, K., Ooi, K.-B., Lin, B., & Tan, B. (2010). Online banking adoption: An empirical analysis. *International Journal of Bank Marketing*, *28*(2), 267–287. https://doi.org/10.1108/02652321011054963

Kassean, H., Gungaphul, M., & Murugesan, D. (2012). Consumer buyer behaviour: The role of internet banking in Mauritius. *Development Economics: Microeconomic Issues in Developing Economies eJournal*.

Kaabachi, S., Ben Mrad, S., & Petrescu, M. (2017). Consumer initial trust toward internet-only banks in France. *International Journal of Bank Marketing*, *35*(3), 00–00. https://doi.org/10.1108/IJBM-09-2016-0140

Keswani, S., & Chaturvedi, M. (2009). Impact of customer's awareness on their satisfaction: A study on e-banking in Gwalior city. *SIES Journal of Management*. https://openurl.ebsco.com/contentitem/gcd:56504951

Kim, C., Kim, M., Lee, C., Spector, J., & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education*, *29*, 76–85. https://doi.org/10.1016/j.tate.2012.08.005

Kulviwat, S., Bruner, G., Kumar, A., Altobello, S., & Clark, T. (2007). Toward a unified theory of consumer acceptance of technology. *Psychology and Marketing*, *24*(12), 1059–1084. https://doi.org/10.1002/mar.20196

Kumbhar, V. (2011). Factors affecting the customer satisfaction in e-banking: Some evidences from Indian banks. *Management Research and Practice*, *3*(4), 1–14.

Lee, H. W., Ramayah, T., & Zakaria, N. (2012). External factors in hospital information system (HIS) adoption model: A case on Malaysia. *Journal of Medical Systems*, *36*(4), 2129–2140. https://doi.org/10.1007/s10916-011-9675-4

Liao, C.-H., & Tsou, C.-W. (2009). User acceptance of computer-mediated communication: The SkypeOut case. *Expert Systems with Applications*, *36*(3), 4595–4603. https://doi.org/10.1016/j.eswa.2008.05.015

Lin, F., Fofanah, S. S., & Liang, D. (2011). Assessing citizen adoption of e-government initiatives in Gambia: A validation of the technology acceptance model in information

systems success. *Government Information Quarterly*, *28*(3), 271–279. https://doi.org/10.1016/j.giq.2010.09.004

Madumanthi, I., & Nawaz, S. S. (2016). Undergraduates' adoption of online banking in Sri Lanka.

Maitlo, G. (2015). Factors that influence the adoption of online banking services in Hyderabad. *International Journal of Economics & Management Sciences*, *4*(3). https://doi.org/10.4172/2162-6359.1000216

Mohamed Shiraj, M. (2015). Factors influencing the adoption of internet banking: Special reference to the South Eastern Region, Sri Lanka. http://ir.lib.seu.ac.lk/handle/123456789/885

Ndubisi, N., & Sinti, Q. (2006). Consumer attitudes, system's characteristics and internet banking adoption in Malaysia. *Management Research News*, *29*(1), 16–27. https://doi.org/10.1108/01409170610645411

Padilla-Meléndez, A., Del Aguila-Obra, A. R., & Garrido-Moreno, A. (2012). Perceived playfulness, gender differences and technology acceptance model in a blended learning scenario. *Computers & Education*, *58*(2), 438–450. https://doi.org/10.1016/j.compedu.2011.08.023

Park, N., Roman, R., Lee, S., & Chung, J. E. (2009). User acceptance of a digital library system in developing countries: An application of the technology acceptance model. *International Journal of Information Management*, *29*(3), 196–209. https://doi.org/10.1016/j.ijinfomgt.2009.02.001

Patel, K., & Patel, H. (2017). Adoption of internet banking services in Gujarat: An extension of TAM with perceived security and social influence. *International Journal of Bank Marketing*, *36*(3), 00–00. https://doi.org/10.1108/IJBM-08-2016-0104

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research*, *14*(3), 224–235. https://doi.org/10.1108/10662240410542652

Polasik, M., & Wisniewski, T. (2008). Empirical analysis of internet banking adoption in Poland. *International Journal of Bank Marketing*, *27*(1), 32–52. https://doi.org/10.1108/02652320910928227

Polatoglu, V., & Ekin, S. (2001). An empirical investigation of Turkish consumers' acceptance of internet banking services. *International Journal of Bank Marketing*, *19*(4), 156–165. https://doi.org/10.1108/02652320110392527

Prasetio, A., & Muchnita, A. (2022). The role website quality, credit card, sales promotion on online impulse buying behavior. *Jurnal Manajemen*, *26*(3), 424–448. https://doi.org/10.24912/jm.v26i3.922

Premarathne, W., & Gunatilake, M. M. (2016). Consumer adoption of internet banking in Sri Lanka. *International Journal of Advanced Research*, *4*(3), 758–765. https://doi.org/10.21474/IJAR01/2142

Rahi, S., Ghani, M., & Alnaser, F. (2017). Predicting customer's intentions to use internet banking: The role of technology acceptance model in e-banking. *Management Science Letters*, *7*(8), 513–524. https://doi.org/10.5267/j.msl.2017.8.004

Sadeghi, T., & Heidarzadeh Hanzaee, K. (2010). Customer satisfaction factors (CSFs) with online banking services in an Islamic country: IR Iran. *Journal of Islamic Marketing*, *1*(3), 249–267. https://doi.org/10.1108/17590831011082463

Shah, M., & Clarke, S. (2009). *E-banking management: Issues, solutions, and strategies*. Information Science Reference.

Shaikh, A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and Informatics*, *32*(1), 129–142. https://doi.org/10.1016/j.tele.2014.05.003

Sharma, S., & Govindaluri, S. (2014). Internet banking adoption in India: Structural equation modeling approach. *Journal of Indian Business Research*, *6*(3), 00–00. https://doi.org/10.1108/JIBR-02-2013-0013

Sikdar, P., & Makkad, M. (2015). Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers. *International Journal of Bank Marketing*, *33*(6), 760–785. https://doi.org/10.1108/IJBM-11-2014-016

Tarhini, A., El-Masri, M., Ali, M., & Serrano, A. (2016). Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon: A structural equation modeling approach. *Information Technology & People*, *29*(4), 830–849. https://doi.org/10.1108/ITP-02-2014-0034

Tarí, J. J., & Sabater, V. (2004). Quality tools and techniques: Are they necessary for quality management? *International Journal of Production Economics*, *92*(3), 267–280. https://doi.org/10.1016/j.ijpe.2003.10.018

Wixom, B., & Todd, P. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, *16*(1), 85–102. https://doi.org/10.1287/isre.1050.0042

Wu, J.-H., & Wang, S.-C. (2005). What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model. *Information & Management*, *42*(5), 719–729. https://doi.org/10.1016/j.im.2004.07.001

Zailani, S., Iranmanesh, M., Nikbin, D., & Beng, J. K. C. (2015). Determinants of RFID adoption in Malaysia's healthcare industry: Occupational level as a moderator. *Journal of Medical Systems*, *39*(1), 172. https://doi.org/10.1007/s10916-014-0172-4

Zhou, T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*, *21*(5), 527–540. https://doi.org/10.1108/10662241111176353