

Customer Awareness and Extent of Use of Various Digital Banking Services of Public and Private Sector Banks in Kerala

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ABSTRACT

The study investigates customer awareness and the extent of use of various digital banking services offered by public and private sector banks in Kerala. As digital transformation reshapes the financial ecosystem, understanding customer readiness and usage behavior becomes vital for inclusive growth. Using primary data collected from a large sample of respondents across different demographic profiles, the research explores the relationships between computer literacy, banking experience, and adoption of digital platforms. Chi-square tests reveal significant associations between computer knowledge and duration of digital banking use, as well as between awareness levels and frequency of transactions. Mean score analysis highlights that while customers exhibit high awareness of basic banking functions such as fund transfer, cash withdrawal, and balance enquiry, awareness of advanced features such as investment management, online tax payments, and complaint tracking remains limited. Traditional modes like branch banking and ATMs continue to dominate customer preferences, reflecting concerns related to security, reliability, and human interaction. The study underscores the need for sustained efforts to enhance digital literacy, simplify user interfaces, and strengthen trust mechanisms through robust cybersecurity and grievance redressal frameworks. The findings provide valuable insights for banks, policymakers, and regulatory bodies such as the Reserve Bank of India (RBI) to design customer-centric digital strategies that promote inclusivity, safety, and financial empowerment in Kerala's rapidly evolving banking landscape.

Keywords: Digital Banking, Customer Awareness, Public Sector Banks, Private Sector Banks, Technology Acceptance Model (TAM), Digital Literacy

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The banking sector has undergone a paradigm shift in recent years, driven by the convergence of information technology and financial services. The transition from traditional banking to digital platforms has redefined the customer–bank relationship, emphasizing convenience, speed, and real-time access to financial resources. Globally, the integration of digital banking services—such as internet banking, mobile banking, digital wallets, Unified Payments Interface (UPI), and contactless card

payments—has revolutionized how individuals and businesses conduct financial transactions. In India, digital banking has become a cornerstone of financial inclusion and modernization, catalyzed by government initiatives like *Digital India*, *Pradhan Mantri Jan Dhan Yojana*, and the promotion of UPI-based payments. Both public and private sector banks have expanded their digital infrastructure to improve service efficiency, accessibility, and customer experience. However, despite these advances, disparities persist in adoption rates due to variations in education, income, trust, and technological familiarity.

Kerala presents a distinctive case for studying digital banking adoption due to its high literacy rate, socio-economic progress, and robust technological infrastructure. The state's banking customers are relatively more exposed to digital platforms; yet, the adoption of advanced services remains uneven. Factors such as perceived security risks, lack of awareness about the full range of digital services, and preference for personalized service through physical branches continue to limit complete digital engagement. Against this backdrop, the present study aims to assess the extent of awareness and use of digital banking services among customers of public and private sector banks in Kerala. It further seeks to analyze demographic and attitudinal factors influencing adoption behavior and to identify potential strategies for enhancing digital inclusion and trust.

1.2 STATEMENT OF THE PROBLEM

Despite rapid digitalization efforts, the penetration and effective utilization of digital banking services remain inconsistent across Kerala's banking population. While urban customers exhibit greater familiarity and confidence in using online financial platforms, rural and semi-urban customers often face barriers such as low digital literacy, limited internet access, and fear of fraud or technical failures. Moreover, differences in service quality, user interface design, and digital promotion between public and private sector banks contribute to varying levels of customer satisfaction and adoption. The gap between awareness and actual usage of digital banking services underscores the need for an in-depth assessment of customer perceptions, behavioral patterns, and socio-demographic influences. Understanding these dynamics is essential for banks to design inclusive digital ecosystems and for policymakers to formulate effective interventions that bridge the digital divide.

1.3 OBJECTIVES OF THE STUDY

To evaluate customer awareness and the extent of usage of digital banking services among customers of public and private sector banks in Kerala.

1.4 HYPOTHESIS

There is no significant association between the level of awareness toward digital banking services and the socio-demographic profile of customers.

1.5 SIGNIFICANCE OF THE STUDY

The present study holds both academic and practical relevance. It contributes to the existing literature on digital banking adoption by examining behavioral and demographic determinants within Kerala's socio-economic context. The insights generated will assist banking institutions in formulating evidence-based strategies to improve customer awareness, accessibility, and trust. From a policy perspective, the findings will aid regulatory bodies like the RBI and state government agencies in assessing the success of digital initiatives such as UPI, Aadhaar-enabled payment systems, and financial literacy campaigns. Furthermore, by identifying the challenges faced by less technologically literate customers, the study emphasizes the need for user-friendly interfaces, multilingual support, and targeted awareness programs to ensure that digital banking benefits are equitably distributed across all segments of society.

1.6 SCOPE OF THE STUDY

This study focuses on individual retail customers of selected public and private sector scheduled commercial banks operating in Kerala. It examines awareness levels, usage behavior, and preferences across a wide range of digital banking services, including internet banking, mobile banking, UPI payments, e-wallets, debit/credit card usage, digital investment tools, and bill payment facilities. The research does not encompass insights from bank employees, fintech companies, or corporate clients. The geographical scope covers both urban and rural areas to ensure representative insights into Kerala's diverse banking landscape.

1.7 CONTEXT OF THE STUDY: KERALA

Kerala, often recognized as India's most literate and digitally progressive state, offers an ideal environment for examining digital banking trends. The state has achieved near-universal access to banking and internet services, supported by strong government and institutional initiatives. However, despite favorable conditions, a large section of customers continues to prefer conventional banking methods due to psychological comfort, perceived risks, and lack of awareness regarding the safety and utility of digital channels.

The Technology Acceptance Model (TAM) forms the theoretical foundation for this study. It posits that customers' behavioral intentions toward adopting technology are primarily influenced by *perceived usefulness* and *perceived ease of use*. In the context of Kerala, additional factors such as *trust*, *perceived security*, and *technological self-efficacy* are equally important in shaping user adoption patterns. By applying TAM to digital banking, the study provides empirical evidence on how attitudinal and demographic variables collectively influence the adoption and sustained use of electronic financial services.

1.8 LIMITATIONS OF THE STUDY

1. **User Group Focus:** The study focuses exclusively on existing users of digital banking services. Hence, it does not capture the perspectives of non-users or potential adopters.
2. **Sampling Methodology:** Due to data access limitations, a non-probability convenience sampling method was used. Consequently, the findings may not be representative of the entire banking population in Kerala.
3. **Cross-Sectional Nature:** The study employs a cross-sectional design, collecting data at a single point in time. Future research could adopt a longitudinal approach to track changes in digital banking adoption trends.
4. **Voluntary Participation:** Since participation was voluntary, responses may reflect self-selection bias and might not represent customers in environments where digital banking usage is mandated or incentivized.

2. LITERATURE REVIEW

In addition to issue-specific studies, numerous researchers have explored broader customer perceptions regarding the adoption of digital banking in India. Adams, Nelson, and Todd (1992) assessed the applicability of the Technology Acceptance Model (TAM) across five technological contexts, such as word processors, graphics, spreadsheets, and email systems. Their findings validated the robustness and consistency of TAM in explaining users' acceptance of information technologies. Segal and Grover (1993) noted that perceived usefulness (PU) and perceived ease of use (PEOU) may vary across

different technologies and organizational settings. They cautioned against overgeneralizing TAM constructs and emphasized the inclusion of moderating variables to overcome its limitations.

Igbaria and Iivari (1995) extended TAM by integrating computer self-efficacy, organizational support, and user experience as external variables. Their study of 450 microcomputer users revealed that PU had a direct impact on usage behavior, while PEOU influenced behavior indirectly through PU. Similarly, Igbaria, Guimaraes, and Davis (1995) demonstrated that individual, organizational, and system characteristics significantly affect both PU and PEOU. Seddon and Kiew (1996) highlighted the importance of system quality, asserting that ease of use and convenience enhance the likelihood of system adoption. Agrawal and Prasad (1999) studied individual differences such as education, experience, and training, finding that three of five external variables significantly influenced PEOU, while training and tenure had minimal effects.

Venkatesh and Davis (2000) expanded TAM by incorporating output quality as an external variable, establishing it as a strong predictor of PU. Gefen, Straub, and Boudreau (2000) emphasized the critical role of trust in web-based transactions, highlighting how perceived risk affects technology acceptance. Chau (2001) validated the influence of computer self-efficacy and attitude on technology use among business students, confirming PU as a major predictor of behavioral intention. Suh and Han (2002) incorporated trust and perceived credibility into TAM within a South Korean context, concluding that PU, PEOU, and trust were key determinants of internet banking adoption.

Liao and Cheung (2002) found that data security and uncertainty discouraged online banking use. Wang et al. (2003) extended TAM with credibility and computer self-efficacy among Taiwanese internet banking users and found PEOU to be the most influential predictor of behavioral intention, followed by PU and credibility. Venkatesh, Morris, Davis, and Davis (2003) compared eight technology acceptance models, showing that including moderating variables enhanced predictive accuracy. Gefen, Karahanna, and Straub (2003) integrated trust into TAM in an online shopping context, confirming that trust, PU, and PEOU significantly shape behavioral intentions, with PU being the most influential. Sabherwal, Jeyaraj, and Chowa (2004) linked system and information quality positively to system usage and user satisfaction.

McPhail and Fogarty (2004) combined constructs from the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) with TAM to examine older consumers in New Zealand, finding that self-efficacy influenced both PU and PEOU, while subjective norms had limited impact. Pikkarainen et al. (2004) found privacy, security, and PU to be key determinants of internet banking adoption. Shih and Fang (2004), applying a hybrid TRA-TAM model in Taiwan, confirmed PU and PEOU as significant predictors of attitudes toward technology use. Ong, Lai, and Wang (2004) found that computer self-efficacy and perceived credibility strongly affected behavioral intention in e-learning system adoption. Yang, Jun, and Peterson (2004) proposed a model for online service quality, identifying responsiveness as the most important factor in online banking satisfaction. Kenneth (2004) applied TAM to mobile commerce adoption in Singapore, showing that innovativeness, past behavior, and demographics significantly influence adoption. Lai and Li (2005) demonstrated TAM's robustness across demographic and technological contexts, confirming its validity in internet banking.

Lichtenstein and Williamson (2006) studied Australian internet banking users and found that convenience, self-efficacy, usability, and bank support positively influenced adoption, while perceived risks and costs served as deterrents. More recent studies reflect evolving challenges and contexts. Paranjpye et al. (2020), surveying 200 participants, found that users below 30 years were the most active

digital banking users, primarily for fund transfers. They emphasized 24/7 accessibility and identified barriers such as financial illiteracy, technological complexity, and security concerns. Krishnan and Sheeja (2020) conducted a qualitative study in Palakkad district, Kerala, highlighting that e-banking—comprising internet, mobile, and telephone banking—has revolutionized financial practices by offering convenience and efficiency, despite persistent challenges in technology and security.

Kamalaravanan and Vigneshwaran (2024) analyzed issues faced by Axis Bank customers in Tirupur City using data from 120 respondents. They identified login errors, transaction failures, and security risks as key issues and recommended improvements in user interface design and customer support. Patil and Pawar (2025) examined challenges faced by students at KBC North Maharashtra University, Jalgaon, identifying ten major problem areas, including navigation, security, and technical issues. Gender differences were noted—female students faced more security and technical concerns, while male students reported connectivity problems. The study underscored the need for banks to develop more inclusive and user-friendly platforms.

3. THEORETICAL BACKGROUND ON AWARENESS OF DIGITAL BANKING AMONG CUSTOMERS

The awareness of digital banking services among customers in Kerala has witnessed a steady rise in recent years, primarily due to the rapid technological advancements in the banking sector and the widespread use of smart phones and internet facilities. Both public and private sector banks have undertaken extensive initiatives to promote their digital platforms through awareness campaigns, mobile applications, and customer support systems. Most customers are aware of commonly used digital services such as ATM withdrawals, debit and credit card transactions, online fund transfers, and balance inquiries through mobile or internet banking. However, the level of awareness is largely limited to these basic functions, indicating a superficial understanding of the full potential of digital banking.

Despite the growing exposure to digital banking channels, the depth of customer awareness varies significantly across demographic and educational groups. Younger and urban customers demonstrate higher awareness and confidence in using digital tools compared to older or rural customers, who tend to rely more on traditional banking methods. This disparity can be attributed to differences in computer literacy, access to digital devices, and prior experience with technology. Moreover, many customers are unaware of specialized facilities such as digital wallets, Unified Payments Interface (UPI) features, investment-linked online services, and automated loan processing systems. Such gaps in awareness limit the scope of digital inclusion and hinder the complete transition from conventional to digital modes of banking.

Public and private sector banks have adopted multiple strategies to enhance customer awareness, including digital literacy programs, financial education workshops, and simplified user interfaces. Nevertheless, the effectiveness of these initiatives often depends on the consistency of outreach and the perceived usefulness of digital tools. In some cases, inadequate communication and technical jargon discourage customers from exploring advanced services. Furthermore, concerns regarding data privacy, cyber fraud, and transaction errors continue to shape customer attitudes, causing hesitation even among those who are generally aware of digital platforms. As a result, awareness alone does not always translate into regular and confident usage of digital services.

Overall, the findings suggest that while general awareness of digital banking has improved considerably, there remains a substantial gap between awareness and comprehensive understanding. To bridge this

divide, banks must focus on continuous customer education, particularly among vulnerable and less tech-savvy segments. Enhancing the accessibility, simplicity, and transparency of digital interfaces will further strengthen user confidence. Policymakers and financial institutions should work collaboratively to promote digital financial literacy and security awareness, ensuring that digital banking becomes an inclusive and empowering tool for all sections of society.

3.1 FACTORS AFFECTING DIGITAL BANKING AWARENESS

The awareness of digital banking among customers is influenced by a variety of demographic, socio-economic, and technological factors. Age, education, income level, and place of residence play a crucial role in determining how well individuals understand and adopt digital financial services. Younger generations and urban populations tend to have higher exposure to technology and are therefore more aware of internet banking, mobile applications, and online payment systems. In contrast, older customers and those residing in rural areas often face challenges due to limited digital literacy and lack of exposure to banking technology. Thus, demographic diversity significantly shapes the extent and depth of digital banking awareness.

Technological infrastructure is another key determinant influencing awareness levels. The availability of stable internet connectivity, smartphone penetration, and digital device affordability directly impact customers' ability to access and understand online banking services. Regions with poor digital infrastructure or limited network coverage often show lower levels of awareness and adoption. Moreover, differences in user interface design, language barriers, and lack of localized applications may discourage customers from exploring digital platforms. Ensuring that digital banking systems are accessible, intuitive, and inclusive can therefore enhance both awareness and usage.

Institutional factors, particularly the initiatives undertaken by banks, also have a major impact on customer awareness. Banks that invest in continuous communication, customer education, and personalized assistance are more successful in improving digital awareness among their clients. Training programs, awareness campaigns, and interactive tutorials help customers become more confident in using online platforms. Conversely, insufficient guidance and complicated application processes tend to create apprehension and mistrust. Thus, the proactive role of financial institutions in customer engagement remains critical to bridging the awareness gap.

Psychological and behavioral factors further influence awareness and perception of digital banking. Trust in technology, perceived ease of use, and perceived security determine the willingness of customers to explore digital services. Fear of fraud, data breaches, and technical errors often restricts individuals from learning or experimenting with online platforms. Cultural attitudes toward technology and previous experiences with banking services also affect the level of openness toward digital transformation. Therefore, increasing awareness requires not only technological and institutional support but also behavioral interventions that build confidence and trust among users.

3.2 ROLE OF THE RESERVE BANK OF INDIA IN PROMOTING DIGITAL BANKING AWARENESS

The Reserve Bank of India (RBI) plays a pivotal role in promoting digital banking awareness across the country by framing policies and regulations that encourage safe, efficient, and inclusive digital financial systems. As the central regulatory authority, the RBI ensures that the digital banking ecosystem operates with transparency and accountability, thereby fostering customer confidence. Through initiatives such as the *Digital Payments Vision 2025* and the *Financial Literacy Framework*, the RBI aims to strengthen the foundation of digital awareness and bring more citizens into the formal financial network. These

frameworks emphasize customer education, innovation, and data protection as key pillars of sustainable digital banking growth.

One of the major contributions of the RBI is its focus on promoting financial literacy as a means to enhance digital awareness. The RBI’s Financial Literacy Centres (FLCs), set up in collaboration with banks across India, conduct workshops and campaigns to educate customers about various digital payment systems, online security practices, and grievance redressal mechanisms. The *RBI Kehta Hai* campaign, launched to create awareness about safe digital transactions, has significantly improved public understanding of secure online banking practices. By providing accessible information through print, digital, and social media, the RBI ensures that financial education reaches diverse sections of society.

In addition to awareness campaigns, the RBI has encouraged innovation and standardization in digital banking infrastructure. The introduction of systems like the Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), and National Electronic Funds Transfer (NEFT) has simplified online transactions and increased customer trust in digital platforms. Furthermore, by setting guidelines for cybersecurity, data privacy, and fraud detection, the RBI ensures that customers can use digital services confidently. The central bank’s emphasis on interoperability among payment systems has also expanded the accessibility and usability of digital channels, thereby reinforcing awareness through practical exposure.

The RBI’s role extends beyond regulation and awareness-building to fostering collaboration among stakeholders. By working with commercial banks, fintech companies, and educational institutions, the RBI encourages the development of user-friendly technologies and digital literacy programs tailored to local needs. Its continuous monitoring of digital trends and proactive policy interventions help address emerging challenges, ensuring that awareness efforts remain relevant and effective. Overall, the RBI’s initiatives not only promote digital banking awareness but also contribute to building a secure, inclusive, and sustainable digital financial ecosystem across India.

4. RESULTS AND DISCUSSION

4.1 CUSTOMER AWARENESS AND EXTENT OF USE OF VARIOUS DIGITAL BANKING SERVICES OF BANKS

4.1.1 ASSOCIATION BETWEEN LEVEL OF COMPUTER KNOWLEDGE AND YEARS OF USAGE OF DIGITAL BANKING

H₀: There is no association between the level of computer knowledge and the years of usage of Digital Banking by the selected customers of public and private sector banks.

Table: 4.1 Association between the level of knowledge to computer and the years of usage of Digital Banking

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.591 ^a	3	.000
Likelihood Ratio	29.919	3	.000

Linear-by-Linear Association	9.458	1	.000
N of Valid Cases	1627		

Source: Computed from Primary Data;
*5% level of significance

From the above table, it is evident that the Pearson Chi-Square value (28.591) has a *p*-value of 0.000, which is less than 0.05 at the 5% level of significance. Hence, the null hypothesis is **rejected**. This indicates a significant association between the level of computer knowledge and the years of usage of Digital Banking **among** the selected customers of public and private sector banks.

4.1.2 ASSOCIATION BETWEEN YEARS OF USAGE OF BANKING SERVICES AND YEARS OF USAGE OF DIGITAL BANKING

H₀: There is no association between the years of usage of banking services and the years of usage of Digital Banking among customers of public and private sector banks.

Table 4.2: Association between Years of Usage of Banking Services and Years of Usage of Digital Banking.

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.728 ^a	9	.000
Likelihood Ratio	40.775	9	.000
Linear-by-Linear Association	13.179	1	.005
N of Valid Cases	1627		

Source: Computed from Primary Data;
*5% level of significance

The table shows that the Pearson Chi-Square value (43.728) has a *p*-value of 0.000, which is below the 0.05 threshold. Therefore, the null hypothesis is **rejected**. This confirms a **significant association between the years of usage of traditional banking services and the years of usage of Digital Banking** among customers of public and private sector banks.

4.1.3 ASSOCIATION BETWEEN AWARENESS OF DIGITAL BANKING SERVICES AND FREQUENCY OF BANKING SERVICE USAGE

H₀: There is no association between the awareness of services available under Digital Banking and the frequency of banking service usage per month by customers.

Table 4.3: Association between Awareness of Digital Banking Services and Frequency of Usage of Banking Services

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	79.134 ^a	8	.000
Likelihood Ratio	73.561	8	.000
Linear-by-Linear Association	38.966	1	.000
N of Valid Cases	1627		

Source: Computed from Primary Data

*5% level of significance

The Pearson Chi-Square value (79.134) yields a *p*-value of 0.000, which is less than 0.05. Consequently, the null hypothesis is **rejected**. This indicates a **significant association between the level of awareness of Digital Banking services and the frequency of banking service usage per month by customers.**

4.1.4. CUSTOMER AWARENESS OF SERVICES AVAILABLE UNDER DIGITAL BANKING – MEAN SCORE ANALYSIS

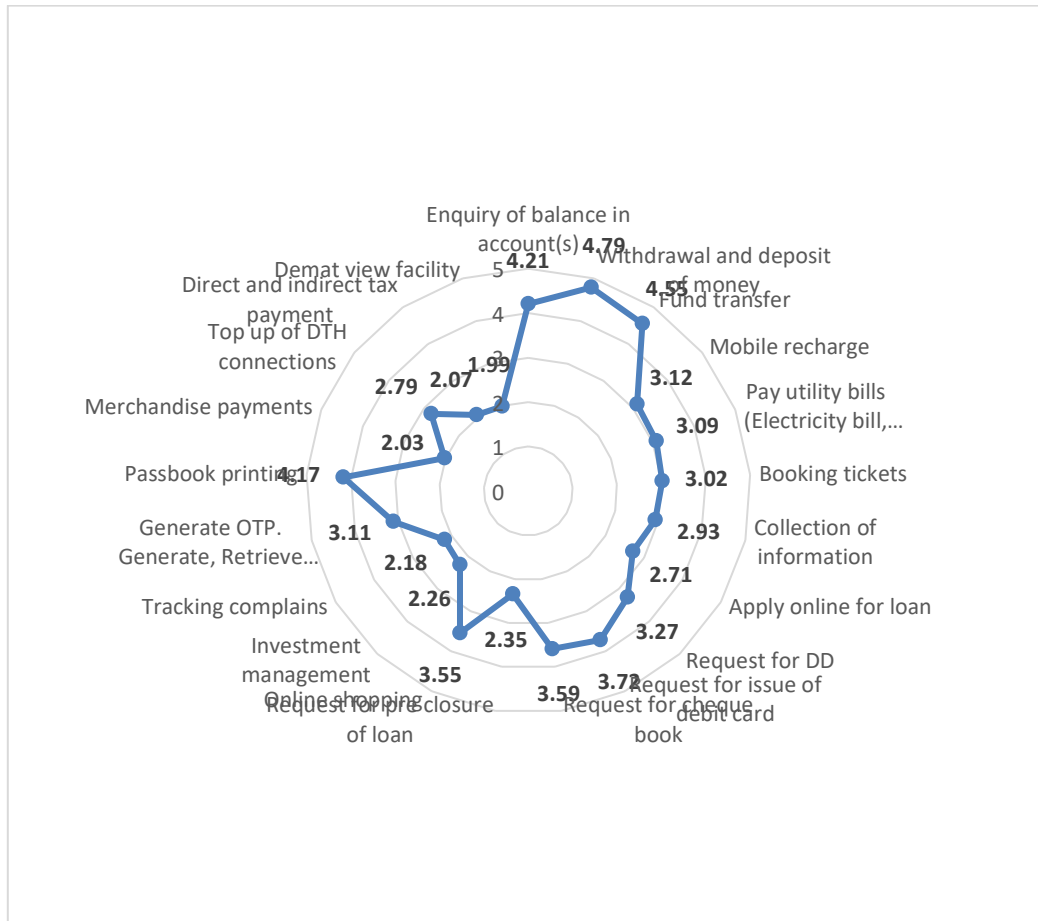
Table: 4.4 Customer awareness of services available under Digital Banking – Mean score Analysis

Type of services under Digital Banking	Customer awareness (Mean Score)	Rank
Enquiry of balance in account(s)	4.21	3
Withdrawal and deposit of money	4.79	1
Fund transfer	4.55	2
Mobile recharge	3.12	9
Pay utility bills (Electricity bill, Telephone bill etc.,)	3.09	11
Booking tickets	3.02	12
Collection of information	2.93	13
Apply online for loan	2.71	15
Request for DD	3.27	8
Request for issue of debit card	3.72	5
Request for cheque book	3.59	6
Request for pre closure of loan	2.35	16
Online shopping	3.55	7
Investment management	2.26	17
Tracking complains	2.18	18
Generate OTP. Generate, Retrieve and Cancel MMID	3.11	10
Passbook printing	4.17	4
Merchandise payments	2.03	20
Top up of DTH connections	2.79	14

Direct and indirect tax payment	2.07	19
Demat view facility	1.99	21

Source: Computed from Primary Data

Figure: 4.1 Radar Graph on the Type of services under Digital Banking



The mean score analysis indicates that customers show the highest awareness regarding **withdrawal and deposit of money (4.79)**, **fund transfer (4.55)**, and **balance enquiry (4.21)**. Moderate awareness is observed for services such as **passbook printing (4.17)**, **debit card request (3.72)**, **mobile recharge (3.12)**, **utility bill payments (3.09)**, and **online shopping (3.55)**. However, awareness levels are relatively low for services like **tracking complains (2.18)**, **direct and indirect tax payments (2.07)**, and **demat view facility (1.99)**. It can therefore be concluded that customers are **highly aware of basic banking operations** such as money deposit, withdrawal, and fund transfer, but have **limited awareness of advanced digital services** such as investment management, online tax payments, and demat viewing facilities. This suggests a need for focused awareness campaigns to improve understanding of the full range of digital banking options.

4.1.5 DIFFERENCE OF OPINION BETWEEN EDUCATIONAL QUALIFICATION AND THEIR ATTITUDE TOWARDS THE ADOPTION OF DIGITAL BANKING

H₀: There is no significant difference between the educational qualification of the customers and their attitude towards the adoption of Digital banking of Public and Private sector banks

Table: 4.5 Difference of opinion between Educational Qualification and their attitude towards the adoption of Digital Banking

Variables	Labels	SS	MS	F	Sig.
Perceived Usefulness	BG	11.078	5.539	16.313	.000*
	WG	396.597	.340		
	Total	407.675			
Perceived Ease of Use	BG	5.282	2.641	14.039	.000*
	WG	219.724	.188		
	Total	225.006			
Trust	BG	18.942	9.471	30.60	.000*
	WG	361.504	.310		
	Total	380.446			
Perceived Security	BG	2.581	1.291	5.77	.003*
	WG	261.005	.223		
	Total	263.586			
Customer Awareness	BG	37.640	18.820	50.57	.000*
	WG	434.622	.372		
	Total	472.262			
Technological self-efficacy	BG	8.640	4.320	6.584	.001*
	WG	766.431	.656		
	Total	775.071			
Accessibility	BG	3.203	1.601	5.240	.005*
	WG	356.968	.306		
	Total	360.171			
Terminology clarity	BG	34.683	11.561	29.848	.000*
	WG	452.012	.387		
	Total	486.694			
Response time	BG	7.619	2.540	17.899	.000*
	WG	165.581	.142		
	Total	173.200			
Perceived Innovativeness	BG	.805	.268	.770	.011*
	WG	406.870	.349		
	Total	407.675			
System Reliability	BG	6.214	2.071	11.049	.000*
	WG	218.791	.187		
	Total	225.006			
<i>BG – Between Group</i>			<i>WG – Within Group</i>		
<i>MS – Mean Square</i>			<i>SS – Sum of Squares</i>		

Source: Computed from primary data

* 5 Percent level of significance

The results presented in Table 4.5 show the outcome of a one-way ANOVA conducted to examine whether customers' attitudes towards the adoption of digital banking systems differ based on their educational qualifications. The analysis considered key dimensions such as perceived usefulness, perceived ease of use, trust, perceived security, customer awareness, technological self-efficacy, accessibility, terminology clarity, response time, perceived innovativeness, and system reliability. The calculated p -values for all these variables are less than 0.05, indicating statistically significant differences among groups with varying educational backgrounds. Therefore, the null hypothesis stating that there is no significant difference between educational qualification and attitude towards the adoption of Digital Bankings (DIGITAL BANKING) in public and private sector banks is rejected. It can thus be concluded that educational qualification significantly influences customers' attitudes toward adopting digital banking services, implying that higher educational attainment is generally associated with more favorable perceptions and readiness to use electronic financial services

5. SUMMARY

The study concludes that customer awareness and the extent of use of digital banking services in Kerala are strongly influenced by digital literacy, previous banking experience, and awareness levels of available services. A significant association between computer knowledge and the duration of digital banking usage underscores the importance of technological competence in promoting digital adoption. While customers with more years of traditional banking experience are more open to adopting digital platforms, many still rely on conventional channels such as branch banking and ATMs. The findings further reveal that awareness of digital services plays a crucial role in determining the frequency and depth of usage -customers tend to engage more with well-known and easily accessible services, whereas advanced features remain underutilized due to limited familiarity. To achieve inclusive and sustained digital transformation, banks must focus on customer education, intuitive system design, and strengthened security measures, ensuring that all segments of the population can confidently and effectively participate in the evolving digital banking ecosystem.

REFERENCES

1. Adams, D.A., Nelson, R.R., & Todd, P.A. (1992). *Perceived Usefulness, Ease of Use, and Usage of Information Technology - a Replication*. MIS Quarterly, 16(4), 227–247.
2. Segar, A.H., & Grover, V. (1993). *Re-examining perceived ease of use and usefulness: A confirmatory factor analysis*. MIS Quarterly, 17(4), 517–525.
3. Igbaria, M., & Iivari, J. (1995). *Effects of self-efficacy on computer usage*. Omega–International Journal of Management Science, 23(6), 587–605.
4. Igbaria, M., Guimaraes, T., & Davis, G. (1995). *Testing the Determinants of Microcomputer Usage Via a Structural Equation Model*. Journal of Management Information Systems, 11(2), 87–114.
5. Seddon, P., & Kiew, M. (1996). *A partial test and development of DeLone and McLean's model of IS success*. Australian Journal of Information Systems, 4(1), 90–109.
6. Agrawal, R., & Prasad, J. (1999). *Are individual differences germane to the acceptance of new information technologies?* Decision Sciences, 30(2), 361–391.
7. Venkatesh, V., & Davis, F.D. (2000). *Theoretical extension of the technology acceptance model: four longitudinal field studies*. Management Science, 46(2), 186–204.

8. Gefen, D., Straub, D., & Boudreau, M. (2000). *Structural Equation Modeling Techniques and Regression: Guidelines for Research Practice*. Communications of the Association for Information Systems, 7(7), 1–78.
9. Chau, P. (2001). *Influence of computer attitude and self-efficacy on IT usage behaviour*. Journal of End User Computing, 13(1), 26–33.
10. Suh, B., & Han, I. (2002). *Effect of trust on customer acceptance of Internet banking*. Electronic Commerce Research and Applications, 12, 47–263.
11. Liao, Z., & Cheung, M.T. (2002). *Internet-based e-banking and consumer attitudes: an empirical study*. Information & Management, 39(4), 283–295.
12. Wang, Y.S., Wang, Y.M., Lin, H.H., & Tang, T.I. (2003). *Determinants of user acceptance of Internet banking: an empirical study*. International Journal of Service Industry Management, 14(5), 501–519.
13. Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D. (2003). *User acceptance of information technology: toward a unified view*. MIS Quarterly, 27(3), 425–478.
14. Gefen, D., Karahanna, E., & Straub, D.W. (2003). *Trust and TAM in online shopping: An integrated model*. MIS Quarterly, 27(1), 51–90.
15. Sabherwal, R., Jeyaraj, A., & Chowa, C. (2004). *Information system success: Dimensions and Determinants*. College of Business Administration, University of Missouri, 99–421.
16. McPhail, J., & Fogarty, G. (2004). *Understanding Older Consumers' Usage of Self-Service Banking Technologies: Test of Two Models*. University of Southern Queensland, 128–141.
17. Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). *Consumer acceptance of online banking: an extension of the technology acceptance model*. Internet Research, 14(3), 224–235.
18. Shih, Y., & Fang, K. (2004). *The use of a decomposed theory of planned behavior to study Internet banking in Taiwan*. Internet Research, 14(3), 213–223.
19. Ong, C.S., Lai, J.Y., & Wang, Y.S. (2004). *Factors affecting engineers' acceptance of asynchronous e-learning systems in high-tech companies*. Information & Management, 41(6), 795–804.
20. Yang, Z., Jun, M., & Peterson, R.T. (2004). *Measuring customer perceived online service quality*. International Journal of Operations & Production Management, 24(11), 1149–1174.
21. Kenneth, C.C. Yang. (2004). *Exploring factors affecting the adoption of mobile commerce in Singapore*. Department of Communication, The University of Texas, 257–277.
22. Lai, V.S., & Li, H. (2005). *Technology acceptance model for internet banking: an invariance analysis*. Journal of Information and Management, 42, 373–386.
23. Lichtenstein, S., & Williamson, K. (2006). *Understanding consumer adoption of Internet Banking: An interpretive study in the Australian banking context*. Journal of Electronic Commerce Research, 7(2), 88–124.
24. Paranjpye, R., Singh, B., & Patel, D. (2020). *Digital Banking – Customer Perception & Challenges*. Journal of Emerging Technologies and Innovative Research, 7(9), 500–510.
25. Kamalasaravanan, S., & Vigneshwaran, T. (2024). *A study on problems faced by customers in accessing online banking services provided by Axis Bank in Tirupur City*. International Research Journal of Modernization in Engineering Technology and Science, 6(6), 1–7.
26. Krishnan, N., & Sheeja, R. (2020). *A study on customer's problems and prospects towards e-banking with special reference to Palakkad district, Kerala*. In 04th International Conference on

Marketing, Technology & Society (ICMTS 2020), Indian Institute of Management Kozhikode. ISBN: 978-93-5419-748-2.

27. Patil, A. N., & Pawar, H. G. (2025). *A study of challenges faced by customers in using Digital Banking products. International Journal of Research in Commerce and Management Studies*, 7(4), 202–207. ISSN: 2582-2292.
28. Patil, A. N., & Pawar, H. G. (2025). *A study of challenges faced by customers in using Digital Banking products. International Journal of Research in Commerce and Management Studies (IJRCMS)*, 7(4), July–August.