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A STUDY ON IMPACT OF TECHNOLOGY IN THE BANKING INDUSTRY ON CUSTOMER SERVICES AT COCHIN

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Abstract
The banking industry is one of the major service sectors that has experienced substantial transformation through information and communication technology. Traditionally, banking activities were strongly dependent on physical branches, face-to-face interaction, paper-based documentation and fixed operating hours. The development of computerisation, telecommunications and internet-based systems has progressively changed this model. Banks now provide a wide range of technology-enabled services through automated teller machines (ATMs), internet banking, mobile banking applications, electronic fund transfers, UPI, QR-based payments, debit and credit cards, electronic customer support, chatbots and other digital channels. Technology has therefore become an important component of modern banking service delivery. Technology has also altered the meaning of customer service in banking. In traditional banking, customer service was largely associated with branch staff behaviour, waiting time, personal attention and physical facilities. In technology-mediated banking, customers evaluate additional dimensions such as application usability, transaction speed, system reliability, availability, security, privacy, responsiveness and ease of problem resolution. Thus, technology itself has become part of the customer-service experience..

Keywords: *Net Banking, Customer Service, Technology.*

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Introduction

The transformation is not limited to transaction processing. Technology has changed the manner in which customers communicate with banks, obtain financial information, transfer funds, make payments, submit service requests and resolve complaints. Customers increasingly expect banking services to be available continuously and through convenient digital channels. Consequently, the quality of technology-enabled services has become closely associated with customer experience, satisfaction and continued usage.

One of the most important technological developments has been internet banking. Internet banking allows customers to access banking facilities remotely through websites and other online platforms. A Kerala-based study using the Technology Acceptance Model found that perceived usefulness and perceived ease of use directly influenced internet-banking use. The study also reported that service-quality dimensions including fulfilment, efficiency, reliability, website attributes, responsiveness and privacy influenced usage indirectly through the TAM variables.

Mobile banking represents another major development. The widespread use of smartphones has enabled customers to conduct banking transactions from almost any location. Mobile applications provide convenience and reduce dependence on physical branches. However, customers' willingness to use mobile banking depends not only on convenience but also on confidence in security, reliability and transaction accuracy. A technology failure, unsuccessful transaction or delayed response can negatively affect the customer's perception of the bank.

Security and privacy have consequently become central elements of technology-enabled banking. Customers provide sensitive financial and personal information when using digital banking platforms. Concerns about phishing, identity theft, fraudulent transactions, unauthorised access and data misuse may influence customers' willingness to adopt or continue using digital banking. An Indian study involving 208 internet-banking customers identified efficiency, reliability, security/privacy and issue/problem handling as important dimensions of customer satisfaction. Its analysis found reliability and security/privacy to be particularly influential.

Another important issue is the digital divide. Although digital banking has expanded rapidly, customers differ in age, education, income, technological familiarity and digital skills. Some customers may be highly comfortable with mobile applications and online transactions, whereas others may continue to depend on branch-based services. Therefore, technological development should not be evaluated only in terms of the number of digital services introduced. The accessibility and usability of those services for different categories of customers are equally important.

Kerala provides an interesting context for studying technology and customer services in banking. The state has a strong banking network and a population with relatively high literacy and extensive exposure to communication technologies. Internet banking research conducted specifically in Kerala has demonstrated the importance of examining customer perceptions of technology-enabled banking rather than assuming that technological availability automatically results in adoption.

The development of digital banking has also affected the relationship between customers and banks. Technology can make transactions faster and more convenient, but excessive dependence on automated systems can sometimes reduce opportunities for personal interaction. Customers may therefore expect banks to combine technological efficiency with responsive human assistance. Contemporary banking customer experience research in India similarly highlights the importance of integrating digital channels with trusted human support.

Service quality remains another significant area of investigation. Traditional service-quality models have been adapted to electronic banking environments because digital customers assess service delivery differently. Reliability, responsiveness, security, efficiency, ease of use and privacy have become important indicators of digital banking service quality.

Customer satisfaction is important because it can influence continued usage, loyalty and patronage. If customers perceive digital banking as convenient, reliable and secure, they may be more willing to continue using technology-enabled services. Conversely, repeated technical problems, unsuccessful transactions, poor complaint handling or security concerns can reduce confidence in digital channels.

The emergence of artificial intelligence and automated customer-service systems has introduced another dimension to banking technology. Chatbots, automated responses, personalised notifications, fraud detection systems and predictive customer-support mechanisms can potentially improve service responsiveness. At the same time, customers may still require human intervention when dealing with complicated financial problems, failed transactions or complaints. Therefore, the effectiveness of technology should be considered alongside the quality of customer support.

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Review of Literature

Reji Kumar and Ravindran: (2019) Internet Banking in Kerala A significant Kerala-specific study examined the perceptions and usage of internet banking customers by extending the Technology Acceptance Model (TAM) with service quality variables. The study aimed to determine how perceived usefulness, perceived ease of use and service-quality dimensions influence internet-banking usage. The objectives are To examine the perceptions of internet-banking users in Kerala and determine the influence of technology acceptance and service-quality factors on internet-banking use. The researcher used 450 respondents were initially surveyed, of whom 406 usable responses were retained for final analysis. A combination of simple random sampling and convenience sampling was used. ATM outlets were selected using simple random sampling, while customers available at the selected outlets were approached through convenience sampling. Statistical analysis used for this study was Factor analysis and Structural Equation Modelling (SEM) were employed using SPSS and AMOS, and the Findings of the study was Perceived usefulness and perceived ease of use had direct effects on internet-banking usage. Perceived ease of use also influenced usage indirectly through perceived usefulness. Service-quality dimensions such as fulfillment efficiency, reliability, website attributes, responsiveness and privacy affected usage through the TAM variables. This study is particularly important for the proposed Kerala research because it directly establishes the relationship between banking technology, service quality and customer usage within the state.

Banu, Mohamed and Parayitam (2019) investigated customer satisfaction with online banking in India using the Technology Acceptance Model and Decomposed Theory of Planned Behaviour. The objective of this study was To investigate the factors influencing customer satisfaction with online banking and examine the mediating role of perceived usefulness. The researcher used both primary and secondary data for the study and the Sample size is 750 respondents from public and private sector banks. The published abstract identifies the respondent group and banking sectors but does not clearly specify a probability sampling procedure. Therefore, the sampling method should be reported as not clearly specified in the accessible article information, rather than assumed. Statistical analysis of this study was Hierarchical regression has used to test the mediated relationships. Findings of this study was Perceived usefulness partially mediated the relationships between customer satisfaction and factors such as online-banking awareness, security, internet knowledge, self-efficacy, adoption intention, trust and ease of use. The findings demonstrate that technology characteristics alone do not completely explain customer satisfaction; customers' knowledge, trust and perceived usefulness also contribute to the relationship.

Saleem and Adil (2014) examined the measurement of internet-banking service quality in the Indian context using the E-S-QUAL framework, the objective is to assess internet-banking service quality and investigate differences in perceptions across customer demographic groups. The researcher used both primary and secondary data for the study and the Sample size is 274 respondents by Sampling method was Non-probability convenience sampling. Statistical analysis used for this study was Cronbach's alpha, independent-samples t-test, ANOVA and correlation analysis. Findings: The E-S-QUAL instrument demonstrated satisfactory internal consistency. Significant differences were not identified across gender and age, whereas income showed significant differences. Strong correlations were observed among the service-quality factors. The study supports the inclusion of electronic service-quality dimensions when examining technology-based banking customer service.

Gupta and Bansal (2021) has done a instrument for measuring internet-banking service quality in India. The objective is To develop a reliable and valid scale for measuring internet-banking service quality and determine the effect of service-quality dimensions on overall service quality and customer satisfaction. The sample size was 1,350 Customers of private-sector, public-sector and foreign banks in the Delhi Metropolitan Area were surveyed. The accessible article does not clearly specify a probability sampling procedure. The Statistical analysis was Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and multiple regression. Findings of the study was security/privacy, reliability, efficiency, responsiveness and site aesthetics. All dimensions significantly influenced overall internet-banking service-quality perceptions and customer satisfaction. Security/privacy had the strongest influence on overall service-quality perception, while efficiency had the strongest influence on satisfaction. These dimensions can be adapted for the proposed Kerala study, particularly security, reliability, efficiency and responsiveness.

Objectives

- To assess the value of services offered to customers in banking sector at Cochin.
- To assess the impact of Technology in the Banking Industry on Customer Services at Cochin.
- To suggest feasible Solutions to Banking Industry on Customer Services at Cochin

Research Methodology

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This paper concentrates on the impact of Technology in the Banking Industry on Customer Services with Special Reference to Cochin. The researcher used both of the primary and secondary data. Random sampling used to collect the data. The unit of sample was customers of banking industry in Cochin and the sample size is 142. The researcher used correlation analysis to find the result.

Analysis & Interpretations

Table – 1. Correlation among selected determinants and Customers Experience.

	Customers Experience	
DETERMINANTS	**R – Value**	**P - Value**
Chatbot Services	.217	.001
Mobile Banking Technology	.293	.000
Internet Banking	.416	.000
Digital Payment Technology	.187	.001
CRM Technology	.197	.000
Data Analytics & Personalisation	.170	.002

Source: Primary data, ** Significant at five percent level

To test the correlation between independent variables on dependent variable Pearson correlation was applied. The independent variables of the study were Chatbot Services Mobile Banking Technology, Internet Banking, Digital Payment Technology, CRM Technology and Data Analytics & Personalisation and dependent variable is Customer Experience. The following Hypothesis was formulated to test the relationship.

Ho7 : There is no relationship among the selected study variables and Values.

From the result it was observed that there was positive correlation between all dependent variables and Values. It implies that all independent variables contribute to Customer experience. All independent variables are having lowest r-value ($r < 0.40$) that is Chatbot Services r value = -.046, Mobile Banking Technologyr value = .293, Internet Banking r value = .416, Digital Payment Technology r value = .187, CRM Technology r value = .197 and Data Analytics & Personalisation r value = .170. This implies that it contributes less to Customer experience. From the p-value in the correlation matrix, it was observed that the level of all independent variables was significant at 0.001 levels. Hence, the null hypothesis was rejected. So it is concluded that there is significant relationship between Chatbot Services, Mobile Banking Technology, Internet Banking, Digital Payment Technology, CRM Technology and Data Analytics & Personalisation with Customer experience.

Findings

From the result it was observed that there was positive correlation between all dependent variables and Values. It implies that all independent variables contribute to Customer experience. All independent variables are having lowest r-value ($r < 0.40$) that is Chatbot Services r value = -.046, Mobile Banking Technologyr value = .293, Internet Banking r value = .416, Digital Payment Technology r value = .187, CRM Technology r value = .197 and Data Analytics & Personalisation r value = .170. This implies that it contributes less to Customer experience. From the p-value in the correlation matrix, it was observed that the level of all independent variables was significant at 0.001 levels. Hence, the null hypothesis was rejected. So it is concluded that there is significant relationship between Chatbot Services, Mobile Banking Technology, Internet Banking, Digital Payment Technology, CRM Technology and Data Analytics & Personalisation with Customer experience.

Suggestions

The five-dimensional service-quality structure comprising security/privacy, reliability, efficiency, responsiveness and site aesthetics. The researchers found significant relationships between these dimensions and overall internet-banking service quality and customer satisfaction.

small finance banks in Kerala found that service quality substantially influenced customer satisfaction and that satisfaction, in turn, was associated with customers' patronage intentions.

online customer experience in relation to e-trust, e-satisfaction and e-loyalty. The research identified perceived customer centrality, perceived value and perceived usability as important components of the digital banking experience.

technology readiness, time savings, accessibility, security, reliability and customer support in relation to digital banking satisfaction. The researchers used descriptive statistics, reliability analysis, correlation, regression and chi-square tests. These findings indicate that technology-related banking research can incorporate both technological and customer-service dimensions.

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Kerala-specific research also indicates the importance of e-service quality.
digital-banking customers from three Kerala districts used convenience sampling and examined security, responsiveness, reliability, efficiency and convenience in relation to e-customer satisfaction.
Therefore, the proposed study is significant because it can bring together the technological and service perspectives of modern banking. Rather than examining technology merely as a collection of digital tools, the study can investigate how customers perceive the availability, usability, convenience, reliability, security and responsiveness of technology-enabled banking services and how these perceptions influence their satisfaction and overall banking experience.
The study can also contribute to understanding differences among customers across demographic groups and banking-service usage patterns. It may help identify whether customers' perceptions vary according to age, gender, educational qualification, occupation, income, type of bank and frequency of digital banking usage. Such evidence can assist banks in developing customer-oriented digital strategies.
In the Kerala context, the study is particularly relevant because customers may use multiple channels simultaneously—branches, ATMs, internet banking, mobile banking, UPI and other electronic payment mechanisms. Consequently, the quality of customer service cannot be understood through branch service alone. The interaction between technology and human support has become an important component of the overall banking experience.

Conclusion

The Indian banking industry has been particularly influenced by digital transformation. The rapid development of smartphones, internet connectivity, digital payment infrastructure and financial technology has encouraged customers to perform many banking activities without visiting a branch. Mobile banking and internet banking have become important channels for checking balances, transferring money, paying bills, managing accounts and accessing other financial services. Recent research on Indian digital banking indicates that customer experience is influenced by factors such as perceived value, usability and customer-centricity.

References

1. Joju, J., Shanmugam, S. V., & Manoj, P. K. (2017). Electronic CRM and ICT-based banking services: An empirical study of the attitude of customers in Kerala, India. International Journal of Economic Research, 14(9), 413–423.
2. George, M. (2017). Customers' opinion on online banking service quality: A study in selected cities of Kerala. Shanlax International Journal of Economics, 6(1), 56–62.
3. Thasleena, N., & Pankajam, A. (2026). Transforming banking practices: Analysing the influence of neobanking dimensions on customer behaviour. Journal of Emerging Market Finance, 25(1). https://doi.org/10.1177/09726225251351771
4. Sujith, T. S., Gayathri, P., & Saboo, A. (2025). Navigating digital banking: Assessing the e-service quality on e-customer satisfaction in Kerala-based private sector bank. Journal of Neonatal Surgery, 14(28s), 962–972.