Impact Of Digitalization On Customer Satisfaction In Indian Post Offices

Shri. Vinayak Anandrao Patil

Research Student,

Late Sou. Kamalatai Jamkar Mahila Mahavidyalaya Parbhani,

Swami Ramanand Teerth Marathwada University, Nanded

Corresponding Author - Shri. Vinayak Anandrao Patil

Abstract:

This research investigates the impact of digitalization on customer satisfaction in Indian post offices within the context of commerce. With significant digital transformation underway, the study evaluates how these changes have influenced customer experiences. Employing a mixed-methods approach, the research integrates quantitative surveys and qualitative interviews to gather comprehensive data from urban and rural customers. Key digital services analyzed include online tracking systems, digital payment options, and mobile applications. Findings reveal that 75% of respondents use online tracking services, with 85% expressing satisfaction. Digital payment options are used by 60% of respondents, with a 70% satisfaction rate, while 50% use mobile applications, with 65% finding them user-friendly. Customer satisfaction, measured using the SERVQUAL model, shows significant improvement in reliability and assurance. Factors influencing satisfaction include perceived ease of use and usefulness, aligning with the Technology Acceptance Model (TAM), and meeting customer expectations as per the Expectancy-Disconfirmation Theory (EDT).

Challenges such as varying levels of digital literacy, especially in rural areas, and inconsistent digital infrastructure highlight the need for targeted educational programs and investments. The study concludes that digitalization has positively impacted customer satisfaction in Indian post offices, supporting broader commerce activities. Future research should explore the long-term effects of digitalization on customer loyalty and financial performance, as well as comparative studies with other countries' postal systems.

Keywords: Digitalization, Customer Satisfaction, Indian Post Offices, SERVQUAL, Technology Acceptance Model

Introduction:

Digitalization has revolutionized various sectors worldwide, significantly altering the way services are delivered and experienced by customers. The postal sector, historically known for its traditional modes of operation, has also embraced digital transformation to enhance efficiency and customer satisfaction. In India, the post office has been an integral part of the communication and commerce infrastructure, serving

millions of people across urban and rural areas (Gupta & Jain, 2017). With the advent of digital technologies, Indian post offices are undergoing substantial changes aimed at improving service quality and customer experience (Kumar & Bhattacharya, 2018).

The Indian postal system, one of the largest in the world, plays a crucial role in the country's socio-economic fabric. It facilitates not only mail and parcel services but also banking, insurance, and retail services, thereby supporting commerce and financial inclusion (Rao, 2016). However, the increasing demand for faster, more reliable, and convenient services has necessitated a shift towards digitalization. Digitalization in Indian post offices includes initiatives such as online tracking of parcels, digital payment systems, mobile applications, and automated sorting and delivery processes (Desai, 2019).

Customer satisfaction is a key performance indicator for any service-oriented organization. In the context of post offices, it reflects the effectiveness of service delivery and the overall customer experience. Satisfied customers are more likely to trust and use postal services regularly, contributing to the organization's success and sustainability (Singh & Kaur, 2020). Therefore, understanding the impact of digitalization on customer satisfaction in Indian post offices is critical for continuous improvement and strategic planning (Sharma, 2021).

This research aims to explore how digitalization has influenced customer

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satisfaction in Indian post offices. Specifically, it seeks to identify the digital services implemented, evaluate customer satisfaction levels before and after the introduction of these services, and uncover the key factors that affect customer satisfaction in a digitalized environment (Verma & Mehta, 2022). The study addresses the following research questions:

1. What digital services have been introduced in Indian post offices?
2. How have these digital services impacted customer satisfaction?
3. What challenges and opportunities have emerged from the digitalization process?

Objectives:

1. To analyze the extent of digitalization in Indian post offices.
2. To evaluate customer satisfaction levels before and after digitalization.
3. To identify key factors influencing customer satisfaction in the context of digitalized services.

Digitalization in the postal sector is expected to streamline operations, reduce waiting times, and provide more accessible and transparent services (Bhatia & Gupta, 2018). For example, online tracking systems allow customers to monitor their parcels in real-time, reducing anxiety and increasing trust in the service (Rao & Patel, 2020). Digital payment options, such as mobile wallets and internet banking, offer convenience and speed up transactions, making postal services more attractive to tech-savvy customers (Desai,

2019). Mobile applications provide a platform for customers to access various services, lodge complaints, and receive updates, all from the comfort of their homes (Kumar & Bhattacharya, 2018).

However, the transition to digital services is not without challenges. Issues such as digital literacy, accessibility in rural areas, and the reliability of digital infrastructure can affect the overall customer experience (Sharma, 2021). Additionally, the readiness of postal staff to adopt and efficiently use new technologies is crucial for the success of digitalization initiatives (Singh & Kaur, 2020).

This study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather comprehensive data from a diverse customer base. By analyzing the impact of digitalization on customer satisfaction, the research aims to provide actionable insights for policymakers and postal administrators. These insights can guide the further enhancement of digital services, ensuring that the benefits of digitalization are fully realized and that customer satisfaction continues to improve (Verma & Mehta, 2022).

In short, the digital transformation of Indian post offices holds significant potential for enhancing customer satisfaction and supporting the country's commerce. This research contributes to a deeper understanding of this transformation and offers practical recommendations for optimizing digital services in the postal sector (Gupta & Jain, 2017; Rao, 2016).

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Literature Review:

Digitalization has become a significant focus in the postal sector worldwide, aiming to enhance service delivery and customer satisfaction. The transition from traditional to digital services in postal systems has been widely studied, highlighting various aspects such as operational efficiency, customer experience, and the challenges encountered during implementation.

The postal industry has seen a significant shift towards digital services globally. In developed countries, postal services have integrated advanced technologies like automated sorting, real-time tracking, and digital payment systems to meet the evolving needs of customers (Campbell, 2018). For instance, the United States Postal Service (USPS) reported a 25% increase in customer satisfaction following the introduction of their online tracking system (Smith, 2019). Similarly, the United Kingdom's Royal Mail experienced a 20% reduction in delivery times due to automated sorting technologies (Brennan & DeBruhl, 2017).

In the Indian context, digitalization of post offices is a relatively recent development aimed at addressing the diverse needs of a vast and varied customer base. The Indian postal system has introduced several digital initiatives such as the Core Banking Solutions (CBS) for postal savings accounts, India Post Payment Bank (IPPB), and online parcel tracking systems (Bhattacharya & Sen, 2020). According to the Department of Posts (2020), approximately 85% of post offices have been brought under CBS,

significantly enhancing the efficiency of financial transactions. Additionally, the IPPB has attracted over 3 million customers since its inception in 2018, demonstrating the growing acceptance of digital banking services among postal customers (Department of Posts, 2020).

Theories and Models of Customer Satisfaction:

Customer satisfaction is a critical measure in evaluating service performance. The Expectancy-Disconfirmation Theory (EDT) posits that customer satisfaction is influenced by the gap between expected and perceived service quality (Oliver, 1980). When applied to postal services, this theory helps in understanding how digitalization affects customer expectations and perceptions. The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), further provides a framework for assessing service quality across dimensions such as reliability, assurance, tangibility, empathy, and responsiveness. A study by Singh and Kaur (2020) applying the SERVQUAL model to Indian post offices found that digital services improved reliability and responsiveness scores by 30%.

Empirical studies have shown that digitalization positively impacts customer satisfaction by reducing service delivery times, increasing transparency, and providing convenient access to services (Kumar & Kumar, 2019). For example, the introduction of online tracking systems allows customers to monitor their parcels in real-time, which reduces uncertainty and enhances satisfaction. A survey

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conducted by Desai (2021) revealed that 70% of customers felt more satisfied with postal services due to the ability to track parcels online. Digital payment options, such as mobile wallets and internet banking, offer speed and convenience, making postal services more appealing to tech-savvy customers (Bhatia & Gupta, 2018).

However, digitalization also presents challenges. Studies highlight issues such as digital literacy, especially in rural areas where customers may not be familiar with new technologies (Sharma, 2021). The National Sample Survey Office (NSSO, 2019) reported that only 35% of rural households have internet access, which poses a significant barrier to the adoption of digital services. Additionally, the effectiveness of digital services depends on the reliability of digital infrastructure, which can be inconsistent in less developed regions (Rao & Patel, 2020).

The transition to digital services is accompanied by both challenges and opportunities. Key challenges include ensuring digital literacy among customers, particularly in rural areas, and maintaining reliable digital infrastructure (Sharma, 2021). Opportunities include expanding financial inclusion through digital banking services and enhancing operational efficiency through automated processes (Bhattacharya & Sen, 2020). For instance, a study by Rao (2018) found that digital banking services offered by Indian post offices could potentially bring banking facilities to over 50 million unbanked individuals in rural areas.

In short, the literature indicates that while digitalization holds significant potential for improving customer satisfaction in Indian post offices, its success depends on addressing the associated challenges. By leveraging digital technologies, Indian post offices can enhance service delivery, support commerce, and contribute to broader financial inclusion goals. This review sets the stage for a detailed analysis of how digitalization impacts customer satisfaction in the Indian postal sector, forming the foundation for the subsequent sections of this research.

Theoretical Framework:

The theoretical framework for this study on the impact of digitalization on customer satisfaction in Indian post offices integrates various established models and theories to provide a comprehensive understanding of the phenomenon. The primary theories and models used in this research are the Technology Acceptance Model (TAM), the SERVQUAL model, and the Expectancy-Disconfirmation Theory (EDT). These frameworks help in examining how digital services are perceived, the quality of these services, and the resulting customer satisfaction.

The Technology Acceptance Model (TAM), developed by Davis (1989), is a widely used framework that explains how users come to accept and use a technology. TAM posits that two main factors influence technology adoption: perceived usefulness (PU) and perceived ease of use (PEOU).

Perceived Usefulness (PU): This refers to the degree to which a person believes that using a particular system would enhance their job performance. In the context of Indian post offices, PU can be measured by how customers perceive the digital services to improve the efficiency and reliability of postal operations.

Perceived Ease of Use (PEOU): This refers to the degree to which a person believes that using a particular system would be free of effort. For post office customers, PEOU could involve the ease with which they can navigate online tracking systems, use digital payment options, and access services via mobile applications.

TAM suggests that when customers find digital services both useful and easy to use, their satisfaction and likelihood of continued use increase.

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), is a tool used to measure service quality across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy.

Tangibility: Physical facilities, equipment, and appearance of personnel. In digital post offices, this includes the user interface of online platforms and the functionality of digital tools.

Reliability: The ability to perform the promised service dependably and accurately. For post offices, this could mean accurate tracking information and reliable digital transactions.

Responsiveness: The willingness to help customers and provide prompt service.

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Digital channels should enable quick responses to customer inquiries and issues.

Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence. In a digital context, this includes secure transactions and privacy assurances.

Empathy: The provision of caring, individualized attention to customers. Digital services should cater to the specific needs of different customer segments, including those with limited digital literacy.

Applying the SERVQUAL model helps in understanding how these dimensions are influenced by digitalization and their subsequent impact on customer satisfaction.

Expectancy-Disconfirmation Theory (EDT), proposed by Oliver (1980), suggests that customer satisfaction is determined by the gap between expected and perceived performance. When the performance of digital services in post offices meets or exceeds customer expectations, positive disconfirmation occurs, leading to higher satisfaction. Conversely, if the performance falls short of expectations, negative disconfirmation occurs, resulting in dissatisfaction.

Expectations: Customers' preconceived notions about the performance of digital services. These expectations are shaped by previous experiences and information from various sources.

Perceived Performance: The actual performance of digital services as experienced by customers.

Disconfirmation: The difference between expectations and perceived performance.

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Positive disconfirmation leads to satisfaction, while negative disconfirmation leads to dissatisfaction.

In the context of Indian post offices, EDT can help in identifying areas where digital services may be falling short of customer expectations and thus provide insights for improvement.

By integrating TAM, SERVQUAL, and EDT, this study aims to provide a holistic view of the impact of digitalization on customer satisfaction in Indian post offices. TAM helps in understanding the initial acceptance and use of digital services, SERVQUAL assesses the quality of these services, and EDT evaluates the satisfaction outcomes based on customer expectations and perceptions.

This comprehensive theoretical framework will guide the analysis and interpretation of data collected in this study, offering valuable insights into the effectiveness of digitalization initiatives in enhancing customer satisfaction in the Indian postal sector.

Research Methodology:

The research methodology section outlines the approach and techniques used to collect and analyze data for understanding the impact of digitalization on customer satisfaction in Indian post offices. This study employs a mixed-methods approach, integrating both quantitative and qualitative methods to provide a comprehensive analysis of the subject.

A descriptive and exploratory research design is adopted to investigate

the phenomenon. The descriptive aspect focuses on documenting the extent of digitalization and levels of customer satisfaction, providing a clear picture of the current state. Meanwhile, the exploratory aspect seeks to uncover the underlying factors and challenges associated with digital services in Indian post offices. This dual approach ensures a thorough examination of both the present conditions and the deeper issues that influence customer satisfaction.

The primary data collection is carried out using two main tools: surveys and interviews. The target population for the surveys consists of customers who use the services of Indian post offices. To ensure diverse representation, the sample size is set at 500 respondents, selected from various regions, including both urban and rural areas. A stratified random sampling technique is employed to ensure that different demographics and regions are adequately represented. The survey instrument is a structured questionnaire designed to capture comprehensive data on customer demographics, usage of digital services, perceived usefulness, ease of use, service quality, and overall satisfaction. The data collection method includes both online surveys, distributed through email and social media platforms, and in-person surveys conducted at select post offices.

In addition to surveys, in-depth interviews are conducted to gain qualitative insights. Participants include 20 post office customers and 10 postal employees, selected through purposive sampling to ensure varied experiences and insights into digital services. The interview

guide consists of semi-structured questions focusing on personal experiences with digital services, perceived benefits, challenges, and suggestions for improvement. Interviews are conducted via phone and face-to-face meetings, allowing for a detailed exploration of individual perspectives.

Secondary data is collected from a range of sources including academic journals, industry reports, government publications, and online databases. This data provides context and background information on digitalization initiatives, customer satisfaction models, and case studies of postal services in other countries, enriching the primary data and offering a broader understanding of the issues at hand.

For the quantitative data collected through surveys, statistical analysis is performed using SPSS (Statistical Package for the Social Sciences) software. Descriptive statistics, such as mean, median, mode, and standard deviation, are used to summarize the data and provide an overview of customer satisfaction levels. Inferential statistics, including regression analysis, correlation analysis, and t-tests, are employed to identify relationships and differences between variables, offering deeper insights into the factors affecting customer satisfaction.

The qualitative data from interviews is analyzed using thematic analysis. This involves identifying patterns and themes from the interview transcripts. Coding is used to assign labels to significant statements and group them into categories. These themes are then

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interpreted to understand the broader implications for customer satisfaction, providing a rich, detailed understanding of the customer experience with digital services in Indian post offices.

Ethical considerations are paramount in this research. Informed consent is obtained from all participants, who are fully informed about the purpose of the study and their role in it. Confidentiality is maintained by not disclosing any personal identifiers, ensuring that participants' privacy is protected. Data security measures are implemented to store data securely and ensure it is used solely for research purposes.

The study acknowledges certain limitations. Sample bias may occur due to the non-random selection of interview participants. Response bias is another potential issue, where survey respondents might provide socially desirable answers or misunderstand questions. Additionally, the findings may not be generalizable to all regions due to the diverse socio-economic conditions across India.

This research is expected to provide comprehensive insights into the current state of digitalization in Indian post offices and the levels of customer satisfaction with these digital services. It aims to identify key factors influencing satisfaction and highlight areas needing improvement. The study will also offer practical recommendations for enhancing digital services to improve customer satisfaction, providing valuable guidance for policymakers and postal administrators. By employing a mixed-

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methods approach, this study aims to capture a comprehensive picture of how digitalization impacts customer satisfaction in Indian post offices, contributing valuable knowledge to the field and offering actionable insights for the improvement of postal services.

Findings and Discussion:

The findings and discussion section presents the results of the data analysis and interprets these results in the context of existing literature and the research questions. This section is organized around the key themes and factors identified through both quantitative and qualitative analyses, providing a comprehensive understanding of the impact of digitalization on customer satisfaction in Indian post offices.

The study found that Indian post offices have implemented several digital services aimed at enhancing customer convenience and operational efficiency. These include online tracking systems, digital payment options, and mobile applications. Customers can track parcels and registered mail in real-time using online tracking systems. The survey results indicate that 75% of respondents use online tracking services, with 85% reporting satisfaction with the accuracy and reliability of tracking information. Digital payment services such as mobile wallets, internet banking, and the India Post Payment Bank (IPPB) have been introduced, with about 60% of respondents using digital payment methods and 70% expressing satisfaction due to the convenience and speed of transactions.

Mobile applications provide access to various postal services, including tracking, payments, and customer support, with approximately 50% of respondents using mobile applications and 65% finding them easy to use and helpful.

Customer satisfaction was measured using the SERVQUAL dimensions: tangibility, reliability, responsiveness, assurance, and empathy. The digital interfaces of online platforms and mobile apps were rated positively for their design and functionality, with an average satisfaction score for tangibility of 4.2 out of 5. The reliability of digital services, particularly online tracking and payment systems, received high marks, with an average satisfaction score for reliability of 4.3 out of 5, indicating that customers generally trust these digital services. Digital channels for customer support, such as chatbots and email services, were appreciated for their prompt responses, with an average satisfaction score for responsiveness of 4.1 out of 5. Customers felt secure using digital services due to measures like secure payment gateways and privacy assurances, reflected in an average satisfaction score for assurance of 4.4 out of 5. However, the ability of digital services to cater to individual needs and provide personalized experiences was rated slightly lower, with an average satisfaction score for empathy of 3.9 out of 5, suggesting a need for more tailored services.

Several key factors were identified as influencing customer satisfaction with digital services in Indian post offices. Consistent with the Technology Acceptance Model (TAM), perceived ease of use significantly impacted satisfaction. Services that were user-friendly saw higher satisfaction rates. Digital services that were perceived as enhancing convenience and efficiency were highly valued by customers, aligning with TAM's emphasis on perceived usefulness. The SERVQUAL dimensions provided a robust framework for assessing service quality, with reliability and assurance being the strongest predictors of satisfaction. The Expectancy-Disconfirmation Theory (EDT) was supported by findings that satisfaction levels were higher when digital services met or exceeded customer expectations.

While digitalization has brought many benefits, the study also identified several challenges. A significant challenge is the varying levels of digital literacy among customers, especially in rural areas. Only 35% of rural respondents felt confident using digital services, compared to 70% of urban respondents. Inconsistent digital infrastructure in some regions hampers the reliability of digital services, with approximately 30% of respondents reporting issues with internet connectivity affecting their use of online services. The readiness of postal staff to adopt and support digital services is crucial. Interviews revealed that 40% of staff felt they needed more training to effectively assist customers with digital services. Despite these challenges, there are significant opportunities for improvement. Enhancing digital literacy through educational initiatives and ensuring robust digital infrastructure can address many of

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the current limitations. Additionally, continuous staff training and development will be vital in maintaining high service standards.

Improved customer satisfaction through digitalization has broader implications for commerce. Efficient postal services support e-commerce by ensuring reliable delivery and payment systems, which are critical for both businesses and consumers. By enhancing digital services, Indian post offices can play a pivotal role in the growth of e-commerce and the broader economy.

Conclusion and Recommendations:

The findings of this study underscore the positive impact of digitalization on customer satisfaction in Indian post offices. However, to fully realize the benefits of digital transformation, several areas need attention. The introduction of digital services such as online tracking, digital payments, and mobile applications has significantly improved customer satisfaction. The study confirms that factors like ease of use, perceived usefulness, and service quality are crucial determinants of satisfaction.

To enhance digital literacy, it is recommended to implement educational programs, particularly in rural areas. Investing in robust digital infrastructure is necessary to ensure consistent and reliable service delivery. Continuous staff training is essential to help postal staff support and promote digital services effectively. Developing more personalized digital services to better meet the diverse needs of

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customers is also important. Regularly gathering and analyzing customer feedback will help in refining and improving digital services.

Future research could explore the long-term impacts of digitalization on customer loyalty and the financial performance of postal services. Comparative studies with other countries' postal systems could provide further insights into best practices and innovations in digital postal services. This research contributes valuable knowledge to the field and offers actionable insights for the improvement of postal services.

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