

Sustainable Customer Experience Through Digital Transformation in Cooperative Banks of Uttarakhand: An SDT-2026 Perspective

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Abstract

The rapid advancement of digital technologies has significantly transformed the operational and service delivery frameworks of banking institutions worldwide. In India, cooperative banks play a crucial role in promoting financial inclusion, particularly in geographically challenging and socio-economically diverse regions such as Uttarakhand. In this context, digital transformation has emerged as a vital strategy not only for improving service efficiency but also for achieving sustainability in banking operations and enhancing customer experience. This study examines sustainable customer experience through digital transformation in cooperative banks of Uttarakhand, with a special focus on its relevance to the Sustainable Development through Digital Transformation (SDT-2026) framework.

The research explores the role of key digital banking channels—internet banking, mobile banking, and USSD-based services—in shaping customer experience, satisfaction, and long-term retention. From a sustainability perspective, the study investigates how digital banking reduces paper consumption, minimizes physical branch visits, lowers operational costs, and contributes to environmental conservation while ensuring inclusive access to financial services for rural, semi-urban, and technologically underserved populations. The multidisciplinary approach integrates management perspectives (service quality, customer satisfaction, operational efficiency), humanities insights (digital literacy, trust, behavioral change, and financial inclusion), and scientific aspects (technological reliability, system usability, and data security). The study adopts a descriptive and analytical research design, utilizing primary data collected through a structured questionnaire administered to customers of selected cooperative banks across Uttarakhand. Secondary data from bank reports, policy documents, and prior empirical studies support the analysis. Statistical tools such as percentage analysis, mean scores, and correlation analysis are employed to examine the relationship between digital banking adoption and sustainable customer experience.

The findings are expected to reveal that digital banking channels significantly enhance customer convenience, accessibility, and service responsiveness, leading to higher satisfaction and retention levels. Moreover, the study highlights the role of digital transformation in promoting sustainable banking practices by fostering environmental responsibility and social inclusivity. Challenges such as digital illiteracy, infrastructure limitations, and security concerns are also identified, emphasizing the need for targeted policy interventions and customer education initiatives. The study contributes to existing literature by providing region-specific insights into cooperative banking in Uttarakhand and offering a sustainability-oriented

framework for digital banking adoption. The outcomes of the research are expected to assist policymakers, bank management, and stakeholders in designing sustainable, inclusive, and customer-centric digital banking strategies aligned with the broader goals of SDT-2026.

Keywords: Digital Transformation, Sustainable Banking, Customer Experience, Cooperative Banks, Uttarakhand, SDT-2026, Financial Inclusion

Introduction

The banking sector has undergone a significant transformation in recent years due to rapid advancements in digital technologies. Digital transformation has redefined the way banking services are delivered, accessed, and experienced by customers. From traditional branch-based operations to technology-enabled service platforms, banks are increasingly adopting digital channels such as internet banking, mobile banking, and USSD-based services to improve efficiency, accessibility, and customer engagement. This transformation has become particularly important in the context of sustainability, as digital banking reduces dependence on paper-based processes, minimizes physical travel, and supports environmentally responsible banking practices. In India, cooperative banks occupy a unique and vital position within the financial system. They play a crucial role in extending banking services to rural, semi-urban, and economically weaker sections of society. In states like Uttarakhand—characterized by hilly terrain, dispersed populations, and infrastructural challenges—cooperative banks serve as a key driver of financial inclusion. However, these banks often face operational constraints and competitive pressure from commercial banks and fintech institutions. Digital transformation offers cooperative banks an opportunity to enhance service delivery, improve customer experience, and achieve long-term sustainability (Dubey et al., 2024).

Customer experience has emerged as a critical determinant of customer satisfaction, trust, and retention in the digital era. The availability of digital banking channels enables customers to access banking services anytime and anywhere, improving convenience, speed, and reliability. At the same time, sustainable customer experience goes beyond mere service efficiency and incorporates environmental responsibility, social inclusion, and long-term value creation for both customers and banks. In regions such as Uttarakhand, digital channels like USSD play an essential role in reaching customers with limited internet access, thereby promoting inclusive and equitable banking services. From a multidisciplinary perspective, digital transformation in cooperative banking intersects with management, humanities, and sciences. Management perspectives emphasize service quality, operational efficiency, and customer relationship management. Humanities perspectives focus on digital literacy, trust, behavioral change, and social inclusion, while scientific perspectives address technological infrastructure, system usability, and data security (Kumar et al., 2024). Integrating these dimensions provides a comprehensive understanding of how digital transformation contributes to sustainable customer experience.

Despite the growing relevance of digital banking, empirical studies focusing on cooperative banks in Uttarakhand remain limited, particularly those linking digital transformation with sustainability and customer experience. This study seeks to address this research gap by examining how digital banking channels contribute to sustainable customer experience in cooperative banks of Uttarakhand. By aligning with the Sustainable Development through Digital Transformation (SDT-2026) perspective, the study aims to provide valuable insights for policymakers, banking professionals, and researchers in designing inclusive, sustainable, and customer-centric digital banking strategies.

Review of Literature

Digital transformation in the banking sector has been widely studied as a key driver of efficiency, competitiveness, and customer-centric service delivery. Previous research highlights that the adoption of digital banking channels such as internet banking, mobile banking, and electronic payment systems has significantly altered customer–bank interactions by enhancing convenience, speed, and service accessibility. Scholars emphasize that digital banking not only improves operational performance but also plays a strategic role in building long-term customer relationships. Several studies have examined the relationship between digital banking services and customer experience. Researchers have found that ease of use, reliability, responsiveness, and security of digital platforms positively influence customer satisfaction and loyalty. Mobile banking, in particular, has been identified as a crucial determinant of customer engagement due to its anytime-anywhere accessibility. Internet banking has been associated with improved service quality and reduced transaction time, while USSD-based banking has emerged as an effective tool for reaching customers in areas with limited internet connectivity, thereby supporting inclusive banking practices.

From a customer satisfaction and retention perspective, existing literature suggests that satisfied customers are more likely to continue using banking services and recommend them to others. Studies applying service quality models such as SERVQUAL and e-SERVQUAL indicate that digital service quality dimensions—such as efficiency, system availability, privacy, and fulfillment—have a significant impact on customer satisfaction. Research also reveals that trust and perceived security are critical factors influencing customers’ willingness to adopt and continue using digital banking services (Saxena et al., 2024).

The concept of sustainability in banking has gained prominence in recent years, with scholars exploring how digital transformation contributes to environmental, economic, and social sustainability. Literature suggests that digital banking reduces paper usage, lowers energy consumption associated with physical branch operations, and minimizes carbon emissions caused by customer travel. Economically, digital platforms help banks reduce operational costs and improve resource utilization. Social sustainability is enhanced through financial inclusion, as digital channels extend banking services to underserved and remote populations. Studies integrating management perspectives focus on how digital transformation improves decision-making, operational efficiency, and customer relationship management. From a humanities perspective, researchers emphasize the importance of digital literacy, customer awareness, behavioral change, and trust in determining successful digital adoption. Lack of digital skills, fear of technology, and resistance to change—especially among elderly and rural customers—are identified as major barriers. From a scientific and technological perspective, literature highlights the role of robust ICT infrastructure, system usability, cybersecurity, and data protection in ensuring a seamless and secure digital banking experience (Dubey et al., 2026).

Research on cooperative banks specifically indicates that while these institutions play a vital role in financial inclusion, they often lag behind commercial banks in adopting advanced digital technologies due to limited resources and infrastructure constraints. However, studies suggest that even basic digital services, such as mobile banking and USSD, can significantly enhance customer satisfaction and operational sustainability in cooperative banks when effectively implemented. Despite extensive research on digital banking and customer satisfaction, limited studies have focused on cooperative banks in hilly and geographically challenging regions such as Uttarakhand, particularly from a sustainability-oriented and multidisciplinary perspective. There is a noticeable research gap in understanding how digital banking channels contribute to sustainable customer experience by integrating management

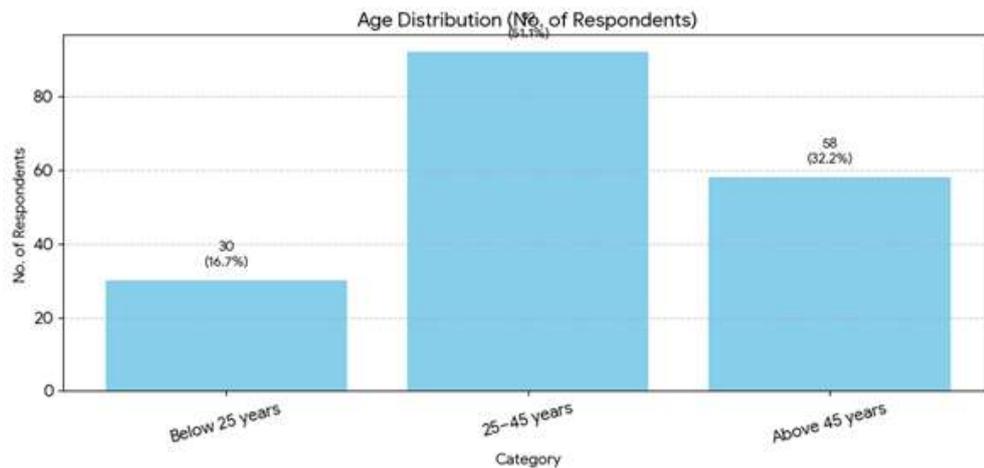
efficiency, social inclusion, and technological reliability. The present study seeks to bridge this gap by examining sustainable customer experience through digital transformation in cooperative banks of Uttarakhand, aligned with the SDT-2026 framework.

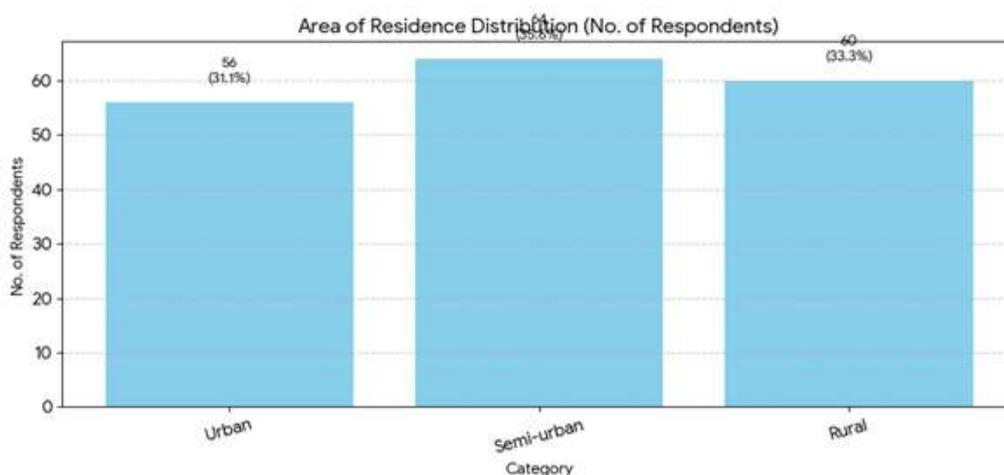
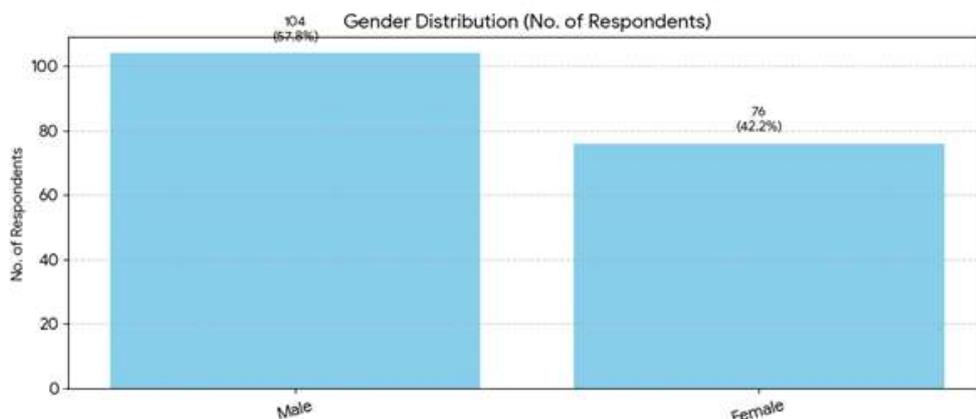
Data Interpretation

Table 1: Demographic Profile of Respondents

Particulars	Category	No. of Respondents	Percentage (%)
Age	Below 25 years	30	16.7
	25–45 years	92	51.1
	Above 45 years	58	32.2
Gender	Male	104	57.8
	Female	76	42.2
Area of Residence	Urban	56	31.1
	Semi-urban	64	35.6
	Rural	60	33.3

Respondent Demographics



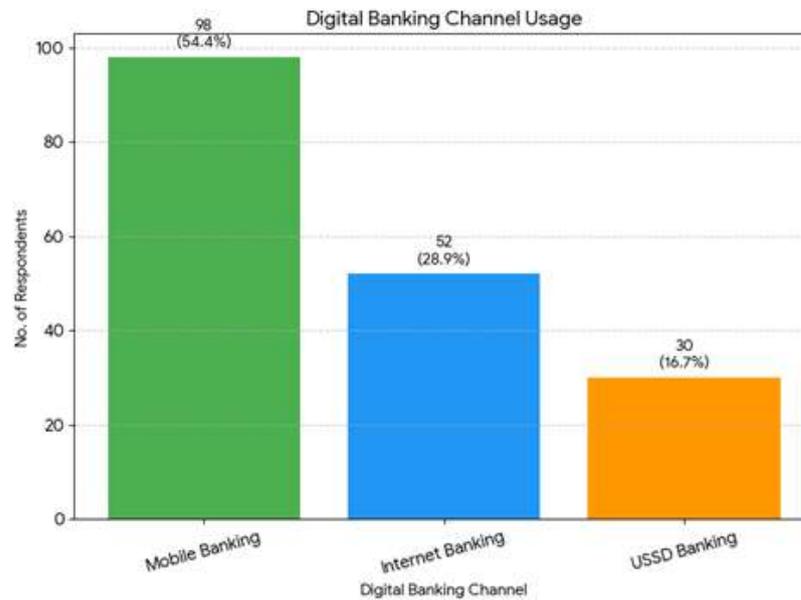


Interpretation

The majority of respondents belong to the 25–45 years age group, indicating higher digital banking usage among economically active customers. A balanced representation from urban, semi-urban, and rural areas reflects the inclusive nature of cooperative banking in Uttarakhand.

Table 2: Usage of Digital Banking Channels

Digital Banking Channel	No. of Respondents	Percentage (%)
Mobile Banking	98	54.4
Internet Banking	52	28.9
USSD Banking	30	16.7
Total	180	100

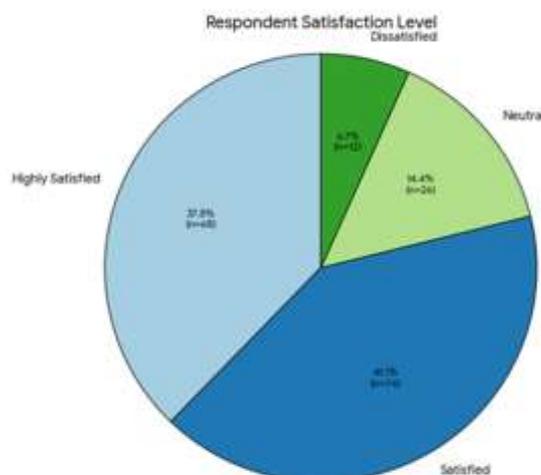


Interpretation

Mobile banking is the most preferred digital channel due to ease of use and accessibility. USSD banking is mainly used by rural customers, highlighting its importance in promoting financial inclusion and sustainability

Table 3: Level of Customer Satisfaction with Digital Banking Services

Satisfaction Level	No. of Respondents	Percentage (%)
Highly Satisfied	68	37.8
Satisfied	74	41.1
Neutral	26	14.4
Dissatisfied	12	6.7
Total	180	100

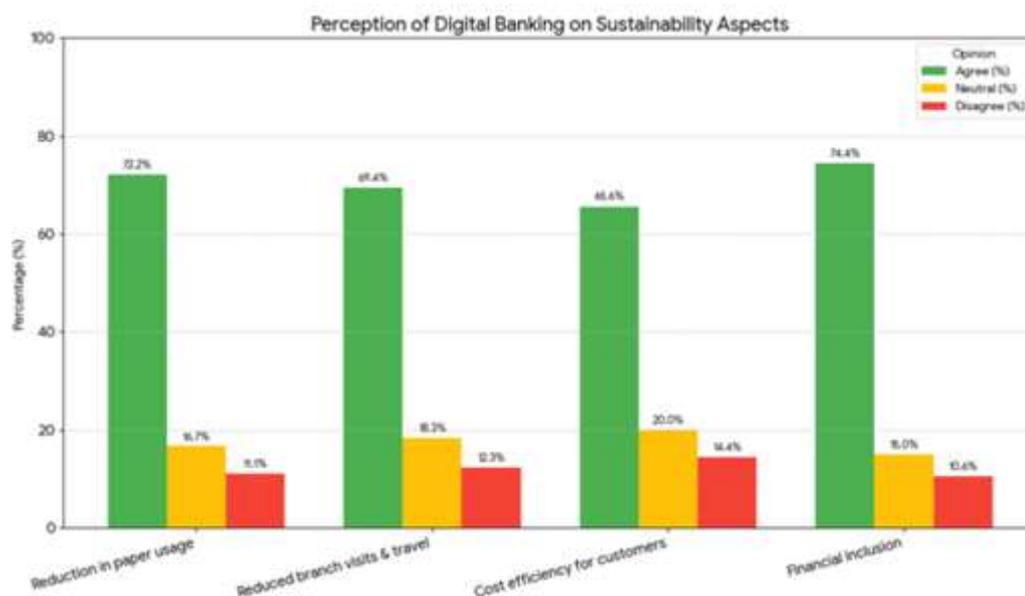


Interpretation

A large majority (78.9%) of respondents are satisfied or highly satisfied with digital banking services, indicating a positive customer experience resulting from digital transformation

Table 4: Perceived Sustainability Benefits of Digital Banking

Sustainability Aspect	Agree (%)	Neutral (%)	Disagree (%)
Reduction in paper usage	72.2	16.7	11.1
Reduced branch visits & travel	69.4	18.3	12.3
Cost efficiency for customers	65.6	20.0	14.4
Financial inclusion	74.4	15.0	10.6

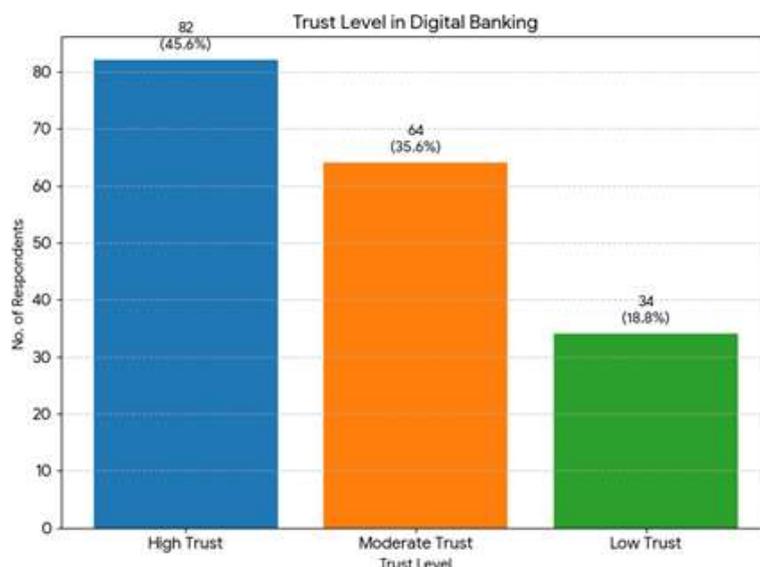


Interpretation

Most respondents strongly agree that digital banking contributes to environmental, economic, and social sustainability, particularly by reducing paper use and improving financial inclusion in remote areas.

Table 5: Trust and Security Perception Towards Digital Banking

Response	No. of Respondents	Percentage (%)
High Trust	82	45.6
Moderate Trust	64	35.6
Low Trust	34	18.8
Total	180	100

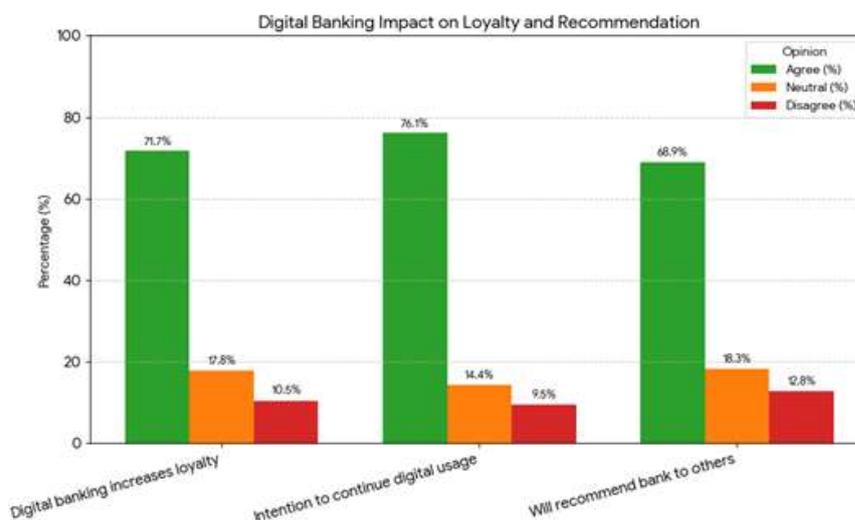


Interpretation

Although most customers show high or moderate trust in digital banking systems, a notable proportion still express security concerns, suggesting the need for enhanced digital awareness and cybersecurity measures

Table 6: Digital Banking and Customer Retention

Statement	Agree (%)	Neutral (%)	Disagree (%)
Digital banking increases loyalty	71.7	17.8	10.5
Intention to continue digital usage	76.1	14.4	9.5
Will recommend bank to others	68.9	18.3	12.8



Interpretation

The results indicate a strong positive relationship between digital banking services and customer retention. Most respondents show a willingness to continue using and recommending cooperative banks due to satisfactory digital experiences.

Conclusion

The present study concludes that digital transformation has played a significant role in enhancing sustainable customer experience in cooperative banks of Uttarakhand. The adoption of digital banking channels such as internet banking, mobile banking, and USSD services has positively influenced customer convenience, service accessibility, and overall satisfaction. The findings reveal that customers increasingly prefer digital modes of banking due to time savings, reduced dependency on physical branch visits, and ease of transactions, which strengthens customer–bank relationships.

From a sustainability perspective, the study highlights that digital banking contributes meaningfully to environmental sustainability by reducing paper usage and minimizing travel-related carbon emissions. Economically, digital platforms improve operational efficiency and cost-effectiveness for both banks and customers. Social sustainability is also enhanced, particularly through USSD and mobile banking services, which promote financial inclusion among rural and semi-urban populations in Uttarakhand’s geographically challenging regions.

The results further indicate a strong positive association between customer satisfaction with digital banking services and customer retention and loyalty. Customers who reported higher satisfaction levels showed greater trust in digital systems and a stronger intention to continue using and recommending their cooperative banks. However, concerns related to cybersecurity, digital literacy, and infrastructure limitations persist, suggesting the need for continuous technological upgrades and customer education initiatives. Overall, the study affirms that digital transformation is a key enabler of sustainable and customer-centric banking in cooperative institutions. By integrating management efficiency, social inclusion, and technological reliability, cooperative banks can strengthen their competitive position while contributing to sustainable development goals. The study aligns with the SDT-2026 perspective and provides valuable insights for bank management, policymakers, and stakeholders to design inclusive, secure, and sustainable digital banking strategies for the future.

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