

Identifying and Prioritising the Drivers of Customer Satisfaction in India Post Digital Services: An Importance–Performance Map Analysis

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Abstract:

The speedy digital transition of public services has raised the need for understanding the factors that affect the satisfaction of the customers in technology enabled public service context. India Post has seen a tremendous expansion in its digital services portfolio with the launch of India Post Payments Bank (IPPB), mobile app, and online postal services, yet there is limited empirical evidence in the area of digital services factors influencing customer satisfaction in the context of India Post. The study explores the effect of Digital Accessibility, Platform Usability, Transaction Reliability, Security and Trust, Employee Digital Support, Service Responsiveness and Perceived Value on Customer Satisfaction with the help of the mediating role of Digital Customer Experience. The research adopted quantitative cross sectional research design and primary data was collected from 500 respondents who are customers and have experienced the use of India Post digital services. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse the proposed framework that was followed by Importance–Performance Map Analysis (IPMA) to determine the strategic directions for service improvement. The results show that all seven antecedent constructs are positively and significantly related to Digital Customer Experience and Digital Customer Experience is strongly and positively related to Customer Satisfaction. The mediation analysis additionally shows that Digital Customer Experience acts as the main mechanism in regard to the path between digital service attributes and customer satisfaction. The highest urgency areas for managerial action highlighted by the IPMA results are Platform Usability, Service Responsiveness, and Security and Trust, meaning that improvements in these areas are likely to bring the most satisfaction for customers. The study adds to the literature of digital service and experience management by combining PLS-SEM with IPMA and offers practical recommendations to enhance digital transformation to facilitate customer-centric services in India Post and other public service organisations.

Keywords: *Digital Customer Experience; Importance–Performance Map Analysis (IPMA); Public Digital Services; Platform Usability; India Post Digital Services*

1. Introduction:

Digital transformation has revolutionised the way that organisations design, deliver and manage services across industries. Digital technologies have revolutionised the way services are delivered, moving them from the traditional face-to-face service to an integrated digital platform that is convenient, efficient and customer-focused. Digital transformation is also being adopted by public sector organisations to streamline their operations, make services more accessible and raise the satisfaction of citizens. The increasing adoption of digital services has intensified customers' expectations of easy, predictable, secure, and responsive service interactions, similar to that of private sector organisations (Vial, 2019; Verhoef et al., 2021).

Government initiatives for digital inclusion have sped up the uptake of technology-based public services in India. The Digital India initiative has been encouraging the public institutions to move towards digital governance and modernize the service delivery system, and hence increase accessibility and transparency, and demand for financial inclusion. In this set of institutions, India Post has seen a significant enhancement in its digital delivery by launching India Post Payments Bank (IPPB), e-Postal Services, parcel tracking, Aadhaar based postal payment services, digital savings products and mobile banking. These have changed India Post from a traditional postal service provider to a technology-driven public postal service provider with a diversified customer base in urban, semi-urban and rural areas.

However, the success of digital transformation is not just about the availability of digital services, but about customers' experiences overall when interacting with services. There are several factors customers consider for digital services, such as accessibility, ease of use, transaction reliability, security, employee assistance, responsiveness, and perceived value. These service attributes combine together to impact consumer's perception of digital service quality and in turn, their satisfaction (Parasuraman, Zeithaml, Malhotra, 2005; Lemon, Verhoef, 2016). Therefore, it is becoming more critical for organisations to understand what can positively influence customer satisfaction to maintain their relationship and keep customers using their digital services.

Customer satisfaction has long been acknowledged as a measure of organisational performance as pleased customers are more inclined to stay on the service provider's books, to suggest it to others and to foster long-term relationship with service providers (Oliver, 1980; Fornell et al., 1996). In addition, recent studies indicate that satisfaction with a service is closely tied to the customer's general digital experience as opposed to just individual service characteristics (Becker & Jaakkola, 2020). This view emphasizes Digital Customer Experience as a key enabler for the positive customer consequences of service attributes.

Although there has been increasing research on digital services, there are several gaps. Firstly, the studies about India Post are limited in empirical evidence, with most studies looking at the commercial sectors like banking, ecommerce and mobile payment applications. Second, many studies investigate the dimensions of service quality separately and don't consider the role played by the combination of these dimensions in determining customers' digital experience. Lastly, classic structural equation modelling only shows the statistically significant relationships between constructs, but does not give much indication which dimensions of the service should be given the highest managerial priority in order to enhance customer satisfaction.

To fill these gaps, this research proposes an integrated framework that Digital Accessibility, Platform Usability, Transaction Reliability, Security and Trust, Employee Digital Support, Service Responsiveness, and Perceived Value affect Digital Customer Experience, and that Digital Customer Experience, in turn, affects Customer Satisfaction. In addition, the research uses Importance–Performance Map Analysis (IPMA) to supplement the structural model to know the service dimensions with high strategic importance but relatively low performances. This offers a more meaningful managerial guidance than relying only on statistical significance as it allows the decision-maker to prioritise resource allocation towards where there is the potential to have the greatest impact in improving customer satisfaction.

The study makes three important contributions to the literature. It first creates a framework for a complete customer experience for Indian Post digital services, encompassing the technological, service and human support aspects. Second, it explores the mediation of Digital Customer Experience in the relationship between digital service attributes and Customer Satisfaction. Third, it uses Importance–Performance Map Analysis to derive strategic directions for improving digital service performance to provide actionable insights for managers and policymakers tasked with promoting customer-centric digital transformation in India's postal service ecosystem.

Research Objectives:

In view of the research gaps identified, this study is to explore the factors that influence customer satisfaction of digital services of India Post from the customer experience point of view. In particular, the study aims to the following objectives:

- To explore how Digital Accessibility, Platform Usability, Transaction Reliability, Security and Trust, Employee Digital Support, Service Responsiveness and Perceived Value affect Digital Customer Experience.
- To explore the impact of Digital Customer Experience upon Customer Satisfaction.
- To take an in-depth look at the mediating role of Digital Customer Experience between digital service attributes and Customer Satisfaction.
- To find and prioritize strategically the drivers of Customer Satisfaction in India Post digital services by means of Importance–Performance Map Analysis (IPMA).

2. Literature Review and Hypothesis Development:

2.1 Digital Accessibility:

Customers are expecting to access services anytime, anywhere and on various platforms and devices, and digital accessibility is becoming a significant factor in digital service environments. From the electronic service quality literature, convenience of access has been indicated to decrease consumer's effort and to positively affect consumer's service assessments as consumers are able to complete transactions efficiently (Parasuraman et al., 2005). Later research has found that access to digital platforms enhances customer expectations of service quality, fosters repeat service use and improves general digital experiences (Fassnacht & Koeese, 2006; Blut, 2016). More recently, however, Verhoef et al. (2021) brought up the importance of seamless accessibility across multiple touchpoints especially since organisations are implementing the omnichannel service strategies. In the public digital services, accessible platforms are also crucial, as there are many different levels of digital literacy and technological resources, as well as preferences for different service channels among customers. Therefore, for India Post, a focus on making their services more accessible via mobile apps, websites, and assisted digital means should enable smoother customer interactions and bettering the overall digital customer experience.

H2: Digital Access is a key component to Digital Customer Experience.

2.2 Platform Usability:

Usability of a platform is an important factor in determining customer expectations of digital services – users want platforms that are intuitive, easy to navigate and do not take too much effort to complete transactions. User-friendly digital interfaces have been shown to decrease cognitive strain, increase perceived convenience and help customers assess the service overall (Davis, 1989; Parasuraman et al., 2005). Clear navigation and simple transaction procedures also have a strong impact on perceived electronic service quality, as Fassnacht and Koeese (2006) further argued. Alike, the meta-analysis of e-service quality research by Blut (2016) revealed ease of use as one of the most powerful factors influencing customer satisfaction and behavioural intention. Recent research on digital banking and mobile payment services has also found that a well-designed digital platform enhances customer confidence, increases customer usage and positively affects the overall customer experience (Verhoef et al., 2021 and Gautam & Sah, 2023). With the growing use of digital services in India Post through mobile apps and online platforms, the usability of the platform is expected to drive smooth interactions with customers and deliver better customer digital service experiences.

H3: It is clear that Platform Usability has a positive effect on Digital Customer Experience.

2.3 Transaction Reliability:

In digital services, especially in cases of a financial activity or time-critical service, transaction reliability is a key factor to customer confidence. Digital platforms are expected to conduct transactions accurately, consistently and without technical failures; otherwise mistakes can result in loss of trust and impact customer rating. According to Parasuraman et al., (2005), there are two critical dimensions of electronic service quality: fulfilment and system availability, both of which are critical for strengthening customer perceptions of quality, with reliable service delivery. Likewise, Collier and Bienstock (2006) reported that reliable transaction processing significantly enhances customers' evaluations of electronic services. Moreover, reliability proved to be one of the most powerful factors affecting customers' satisfaction and behavioural intentions in the digital service context in Blut (2016). Recent research on digital banking and financial technology has also shown that reliable transaction processing can boost customer trust, decrease perceived risks, and enhance their overall digital experience (Alalwan et al., 2017; Verhoef et al., 2021; Hassan et al., 2024). India Post's growing efforts towards providing financial and postal services through digital platforms are anticipated to bolster customers' digital experiences.

H3: There is a positive effect of Transaction Reliability on Digital Customer Experience.

2.4 Security and Trust:

As customers regularly provide their personal, financial and transactional data via online channels, security and trust are key considerations for the successful adoption of digital services. Security brings peace of mind to customers about privacy breaches and financial risk, and creates trust that the service provider can provide reliable and secure services. Previous studies identified privacy as an integral part of e-service quality and have shown that it has a significant impact on customers' perception of the quality of online services (Parasuraman et al., 2005). Later research revealed that trust is a critical factor in decreasing perceived risk and increasing customer satisfaction within digital settings (Gefen et al., 2003; Kim, Ferrin, & Rao, 2008). Blut (2016) also conducted a meta-analysis to investigate whether perceptions of security have any impact on customer evaluations and behavioural intentions, which confirmed that the perceptions of security have a significant impact on customer evaluations and behavioural intentions. Recent research into digital banking and fintech has found that secure digital platforms provide many benefits to customers, including increased trust, improved digital experiences and continued service usage (Alalwan et al., 2017, Verhoef et al., 2021 and Gautam & Sah, 2023). As India Post digital services will be financial transactions and involve customers' personal information, the security and trust in the digital service will be a big part of their overall digital customer experience.

H4: Security and Trust has a positive impact on Digital Customer Experience.

2.5 Employee Digital Support:

While digital services are intended to encourage people to serve themselves, staff support is an essential part of customers' service experiences, especially when customers encounter a technical issue or need guidance while engaging in a digital service. There is evidence that knowledgeable and responsive staff decreases the uncertainty of customers, ease the adoption of technology, and increases customer confidence in digital service environments (Meuter et al., 2000; Curran & Meuter, 2005). Research on technology-based service delivery also indicates that employee support is important to complement technology and positively influence customer perceptions of service quality and their overall experience (Bitner, Brown, & Meuter, 2000; Lemon & Verhoef, 2016). More recently, Becker and Jaakkola (2020) pointed out that CX is created by combining digital and human interactions, and Verhoef et al. (2021) noted that the customer experience is still affected by the support of employees in very digital service environments. Competent employee support is expected to enable smooth digital interactions which would enhance Digital Customer Experience in India Post as customers often require assistance for financial or postal transactions.

H5: Employee Digital Support positively influences Digital Customer Experience.

2.6 Service Responsiveness:

In the digital service landscape, where users are accustomed to quick service, immediate support, and the timely resolution of service issues, service responsiveness has emerged as a crucial aspect. Service providers' rapid response to customer queries and problem resolution can boost customer confidence in using digital platforms, which can lead to better service ratings. Previously, responsiveness was found to be one of the basic dimension of e-service quality, which concerns the provision of speedy service and the recovery of service failure, thus enhancing customer perceptions and satisfaction (Parasuraman et al., 2005; Collier & Bienstock, 2006). The importance of responsiveness as a key factor influencing customer experience and satisfaction in digital environments has been reinforced in more recent studies, especially within the banking and financial services sectors where the issue of service failure can directly relate to customer trust (Bhuvaneswari & Maruthamuthu, 2024; Yilmaz et al., 2024). Additionally, research on Indian digital banking has demonstrated that rapid service response enhances the user experience online and fosters the adoption of digital services (Bhatnagar & Rajesh, 2024). Responsive customer service and prompt resolution of issues are likely to improve the overall digital experience of customers and their perceptions of the service quality as India Post continues to grow its digital service offerings.

H6: Service Responsiveness has a positive impact on Digital Customer Experience.

2.7 Perceived Value:

Perceived value is well known to influence customers' assessment of digital services, and it represents the overall evaluation of the benefits received against the time, effort, cost and risk of using a digital service. Digital service can help customers have a better experience if they find it more convenient, more efficient, and cost-effective than the other service channels. Previous research showed that perceived value has a positive relationship with customer satisfaction, service quality perceptions and long-term customer relationships (Zeithaml, 1988; Cronin, Brady, & Hult, 2000). The subsequent studies then revealed that customers, who perceive more value from the Digital services, show greater engagement and intention to continue using the services (Sweeney & Soutar, 2001; Kim, Chan, & Gupta, 2007). In the field of digital banking and electronic payment services, recent studies have further validated the importance of perceived value in boosting customers' digital satisfaction and experiences by providing them with perceived usefulness and overall benefits of the digital platforms (Kumar et al., 2023; Nguyen, Nguyen, & Tran, 2024; Alzoubi et al., 2024). Customers who consider digital services as convenient, economical and beneficial are more likely to build positive digital experiences, and consequently build positive experiences overall of the service provider, in the context of India Post.

H7: Digital Customer Experience is positively impacted by Perceived Value.

2.8 Digital Customer Experience:

Digital Customer Experience has become a key service management concept, as it is a reflection of customers' overall assessment of their interactions with an organisation from various digital touchpoints. Customer experience differs from traditional service quality measures in that it is not only a measure of the characteristics of service, but also of customers' cognitive, emotional and behavioural response during the customer service journey (Lemon & Verhoef, 2016). Becker and Jaakkola (2020) also presented the fact that customer experience is co-creative, and that it is composed of technological, relational and contextual elements and is treated as a whole. Studies in recent years have shown that a positive customer experience on digital platforms can boost customer satisfaction, engagement, and future intentions to return to a platform, whether in digital banking, e-commerce, or in an omnichannel service environment (McLean & Wilson, 2019; Verhoef et al., 2021; Klaus & Kuppelwieser, 2023; Wattoo et al., 2025). India Post is expected to receive more satisfied feedback about its digital services as it continues to improve its digital service ecosystem, delivering more seamless, convenient, and trustworthy digital experiences for its customers. Hence, Digital Customer Experience is suggested as the direct cause of Customer Satisfaction in the current study.

The Customer Satisfaction is impacted positively by H8: Digital Customer Experience.

2.9 Mediating Role of Digital Customer Experience:

Today's research on services more and more acknowledges that customers don't judge individual service features; they judge the experience as a whole, taking into account a whole bunch of service experiences over the course of the service. This view indicates that digital service attributes have a rather indirect impact on customer satisfaction, as they affect customers' digital experience. Lemon and Verhoef (2016) suggested that customer experience is a way of connecting service performance with customer outcomes in all touchpoints, as it is a central mechanism that incorporates customers' cognitive, emotional, behavioural and relational response. Becker and Jaakkola (2020) also claimed that customer experience is formed by the customer's interaction with technological, organisational and human components, which in turn, influence post-consumption assessments like satisfaction or loyalty. Recent empirical studies have confirmed that service quality dimensions in the contexts of digital banking, mobile commerce, and omnichannel services have a mediating effect on customer satisfaction as they primarily influence the overall customer experience of the service, apart from their direct effects (Klaus & Kuppelwieser, 2023; Wattoo et al., 2025; Bhatnagar & Rajesh, 2024). Digital Customer Experience is anticipated to act as a mediator between digital service attributes and Customer Satisfaction in India Post as digital services are not only technologically based but include employee-assisted interaction as well.

Based on this, the following mediation hypotheses are put forward:

The following hypotheses were developed to assess whether Digital Customer Experience is a mediator between Digital Accessibility and Customer experience. To test the mediation effect between Digital Accessibility and Customer experience, the following hypotheses were developed:

H9: Digital Customer Experience acts as a linkage between Digital Accessibility and Customer Satisfaction

H10: Digital Customer Experience is a mediator between platform usability and customer satisfaction.

H11: Digital Customer Experience is a mediator between Transaction Reliability and Customer Satisfaction.

H12: Digital Customer Experience plays a mediating role between Security and Trust as well as Customer Satisfaction.

H13: Digital Customer Experience is a mediator between Employee Digital Support and Customer Satisfaction.

H14: Digital Customer Experience is a mediator between Service Responsiveness and Customer Satisfaction.

H15: Digital Customer Experience is a mediator between Perceived Value and Customer Satisfaction.

3. Research Methodology

The research design of this study was quantitative cross-sectional study to explore factors affecting customer satisfaction towards India Post digital services. The primary data was collected from the customers who had been using the one or more of the services provided by India Post in the last one year through survey method. The proposed conceptual framework focused on the impact of Digital Accessibility, Platform Usability, Transaction Reliability, Security and Trust, Employee Digital Support, Service Responsiveness, and Perceived Value on Digital Customer Experience which, in turn, impacts Customer Satisfaction. Given the nature of the study, a cross sectional design was deemed suitable as it allows to examine the relationships between multiple latent constructs at one point in time.

The target population included customers who had interacted with various digital offerings of India Post, such as India Post Payments Bank (IPPB), online postal services, parcel tracking, Aadhaar Enabled Payment Services, digital savings products, mobile banking, etc. A purposive sampling method was used to ensure that respondents who participated in the study have relevant service experience. The data was gathered using a structured questionnaire which was filled online and offline. The final number of valid responses was 500, which was sufficient for the estimation of the proposed structural model and for the Importance–Performance Map Analysis (IPMA).

The survey instrument was divided into two parts. The demographic data of the respondents related to gender, age, educational qualification, occupation, residential area, characteristics of digital service use were collected in the first part. The second section measured the study constructs with 38 reflective indicators across nine latent variables. Each of the following factors were measured using four indicators: Digital Accessibility, Platform Usability, Transaction Reliability, Security and Trust, Employee Digital Support, Service Responsiveness and Perceived Value; and five indicators were used for Digital Customer Experience and Customer Satisfaction. All the items were adapted from existing measurement scales which were previously reported in other studies and were modified to suit the context of the India Post digital services. A five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree) was used for responses.

Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to perform data analysis. Indicator reliability, internal consistency reliability, convergence validity, discrimination validity, factor loadings, Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), Fornell–Larcker criterion, and Heterotrait–Monotrait ratio (HTMT) were used to assess the measurement model. Next, the structural model was examined by path coefficients, coefficient of determination (R^2), effect size (f^2) and bootstrapping to validate the proposed hypothesis. Finally, Importance-performance Map Analysis (IPMA) was used to differentiate on relative importance and performance of each antecedent constructs and provide strategic priorities to improve customer satisfaction with the services of the India post regarding digitalization.

4. Results:

For the analysis of the proposed research model, the data collected from 500 customers who had experience in India Post digital services was analysed. The analysis began with demographic characteristics of the respondents, and then the measurement model was evaluated for reliability and validity of the constructs. The structural model was then evaluated to explore the hypothesised relationships between the latent variables. Lastly, Importance–Performance Map Analysis (IPMA) was carried out to determine the strategic priorities for improving Customer Satisfaction with digital services of India Post.

Table 1. Demographic Profile of Respondents (N = 500)

Variable	Category	Frequency	(%)
Gender	Male	227	45.40
	Female	255	51.00
	Other	6	1.20
	Prefer not to disclose	12	2.40
Age	Below 20 years	24	4.80
	20–29 years	161	32.20
	30–39 years	141	28.20
	40–49 years	88	17.60
	50–59 years	56	11.20
	60 years and above	30	6.00
Educational Qualification	Secondary education or below	38	7.60
	Higher secondary education	83	16.60
	Undergraduate/Diploma	193	38.60
	Postgraduate	148	29.60
	Doctorate or above	38	7.60
Occupation	Student	58	11.60
	Government employee	72	14.40
	Private-sector employee	171	34.20
	Self-employed/Business	94	18.80
	Homemaker	43	8.60
	Retired	40	8.00
	Other	22	4.40
Residential Area	Urban	229	45.80
	Semi-urban	161	32.20
	Rural	110	22.00
Duration of Usage	Less than 6 months	48	9.60
	6 months–1 year	97	19.40

	More than 1–3 years	220	44.00
	More than 3 years	135	27.00
Frequency of Usage	Daily	47	9.40
	Weekly	112	22.40
	Monthly	168	33.60
	Occasionally	128	25.60
	Rarely	45	9.00
Primary Digital Service Used	IPPB Mobile Application	138	27.60
	UPI/QR Payments	75	15.00
	Mobile/Internet Banking	52	10.40
	Aadhaar Enabled Payment System	40	8.00
	Digital Savings/Deposit Services	53	10.60
	Online Postal/Parcel Tracking	67	13.40
	Online Booking/Payment	25	5.00
	Digital Money Transfer/Bill Payment	41	8.20
	Other	9	1.80
Preferred Access Mode	Smartphone Application	247	49.40
	India Post Website	56	11.20
	Post Office Digital Counter	60	12.00
	Assistance from India Post Employees	71	14.20
	Doorstep Banking/Postal Assistance	49	9.80
	Other	17	3.40
Total		500	100.00

The demographic profile of the respondents in the study is shown in Table 1. The size of female respondents (51.00%) was marginally higher than that of the male respondents (45.40%). The age group 20-29 years (32.20%) had the highest number of customers followed by the age group 30-39 years (28.20%) showing that the young and middle-aged people are the major consumers of the services provided by India Post digitally. Majority of the respondents had an undergraduate or diploma qualification (38.60%) and the largest occupational group was those employed in the private sector (34.20%). The geographical location of the respondents was mostly urban (45.80%) with a significant number of semi-urban and rural customers also involved to provide diversity in the sample. Most were using India Post digital services for over one year but less than 3 years (44.00%) with the most frequent being by the month (33.60%). The IPPB mobile application was the most-used digital service (27.60%) and smartphone applications (49.40%) were the preferred mode of access. In general, the demographic results indicate that the digital service users are diverse and have an adequate experience with digital services, which forms a solid foundation for testing the proposed research model.

Table 2. Descriptive Statistics of the Study Constructs

Construct	No. of Items	Mean	Standard Deviation
Digital Accessibility (DA)	4	3.81	0.72
Platform Usability (PU)	4	3.94	0.69
Transaction Reliability (TR)	4	3.86	0.71
Security and Trust (ST)	4	3.89	0.68
Employee Digital Support (EDS)	4	3.74	0.76
Service Responsiveness (SR)	4	3.91	0.70
Perceived Value (PV)	4	3.83	0.73
Digital Customer Experience (DCE)	5	3.95	0.67
Customer Satisfaction (CS)	5	4.02	0.65

The descriptive statistics of the study constructs are given in Table 2. The mean scores fell within the range of 3.74 to 4.02, reflecting overall positive customer attitudes towards digital services offered by India Post. The mean scores for the factors Customer Satisfaction, Digital Customer Experience and Platform Usability were 4.02, 3.95, and 3.94 respectively, indicating that overall the respondents were quite satisfied with the digital service experience. Employee Digital Support, on the other hand, had the lowest mean ($M = 3.74$), which suggests that there is relatively more room for improvement in customer assistance in digital service contact situations. The standard deviation scores varied between 0.65 and 0.76, which indicated the moderate variation among the respondents' perception in the constructs.

4.2 Measurement Model Assessment

The descriptive statistics of the study constructs are given in Table 2. The mean scores fell within the range of 3.74 to 4.02, reflecting overall positive customer attitudes towards digital services offered by India Post. The mean scores for the factors Customer Satisfaction, Digital Customer Experience and Platform Usability were 4.02, 3.95, and 3.94 respectively, indicating that overall the respondents were quite satisfied with the digital service experience. Employee Digital Support, on the other hand, had the lowest mean ($M = 3.74$), which suggests that there is relatively more room for improvement in customer assistance in digital service contact situations. The standard deviation scores varied between 0.65 and 0.76, which indicated the moderate variation among the respondents' perception in the constructs.

Table 3. Reliability and Convergent Validity

Construct	Cronbach's α	Composite Reliability (CR)	Dijkstra–Henseler's ρ_A	AVE
DA	0.886	0.912	0.889	0.674
PU	0.892	0.918	0.895	0.691
TR	0.881	0.910	0.884	0.669
ST	0.904	0.927	0.907	0.717
EDS	0.885	0.912	0.888	0.673
SR	0.893	0.920	0.897	0.696
PV	0.889	0.915	0.892	0.683
DCE	0.914	0.936	0.917	0.745

CS	0.908	0.932	0.911	0.733
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As seen in Table 3, the internal consistency reliability and convergent validity of all constructs is satisfactory. Cronbach's alpha range from 0.881 to 0.914 and Composite Reliability range from 0.910 to 0.936, which are greater than the recommended value of 0.70. Likewise, the values of Dijkstra–Henseler's rho (ρ_A) values range from 0.884 to 0.917, which also demonstrates the measurement scales' reliability. All the Average Variance Extracted (AVE) values are greater than 0.5, ranging from 0.669 to 0.745, which means that more than half of the variance in the indicators is attributable to the corresponding construct. These results together indicate the proposed measurement model has acceptable reliability and convergent validity, hence is suitable for the next step of structural model testing.

Table 4. Discriminant Validity Assessment using the Heterotrait–Monotrait Ratio (HTMT)

Construct	DA	PU	TR	ST	EDS	SR	PV	DCE	CS
DA	—								
PU	0.462	—							
TR	0.418	0.496	—						
ST	0.445	0.511	0.537	—					
EDS	0.473	0.486	0.429	0.458	—				
SR	0.452	0.517	0.483	0.526	0.491	—			
PV	0.468	0.505	0.494	0.552	0.473	0.528	—		
DCE	0.641	0.668	0.652	0.713	0.674	0.689	0.701	—	
CS	0.492	0.521	0.508	0.556	0.527	0.541	0.563	0.782	—

Table 4 shows the HTMT ratios which were used to test for discriminant validity between the latent constructs. The results showed that all HTMT values were below the threshold value of 0.85 (between 0.418 and 0.782), indicating that all the constructs were empirically different. The highest HTMT was found between Digital Customer Experience and Customer Satisfaction (0.782) which was below the acceptable limit. These findings indicate the satisfactory achievement of discriminant validity for the proposed measurement model as each construct reflects a different theoretical concept.

Table 5. Discriminant Validity Assessment using the Fornell–Larcker Criterion

Construct	DA	PU	TR	ST	EDS	SR	PV	DCE	CS
DA	0.821								
PU	0.458	0.831							
TR	0.412	0.487	0.818						
ST	0.438	0.506	0.531	0.847					
EDS	0.465	0.478	0.421	0.451	0.820				
SR	0.446	0.511	0.475	0.518	0.483	0.834			
PV	0.459	0.498	0.486	0.544	0.466	0.521	0.827		
DCE	0.628	0.654	0.641	0.702	0.665	0.681	0.692	0.863	

CS	0.483	0.513	0.501	0.548	0.518	0.532	0.554	0.775	0.856
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The Fornell–Larcker criterion also validates the measurement model's discriminant validity. The square root of the AVE values for each construct (diagonal values in Table 5) is higher than the correlations between the construct and all other constructs. This means that more variance is captured by each latent construct and its indicators than by each and other constructs in the model. Taken together with the HTMT results, these results offer a strong empirical support for the measurement model as being discriminant and suitable for examining the structural relationships.

4.3 Structural Model Assessment

Following the evaluation of the measurement model, the structural model was analyzed in terms of model fit, coefficients of determination, path coefficients, effect sizes and significance tests using bootstrapping. The estimated model had an SRMR of 0.0251 which is considered to be satisfactory as the empirical and model-implied correlation matrices matched well.

Table 6. Model Fit and Coefficients of Determination

Criterion/Construct	Value	Adjusted R ²	Result
SRMR – Saturated model	0.0239	—	Satisfactory model fit
SRMR – Estimated model	0.0251	—	Satisfactory model fit
Digital Customer Experience	0.6835	0.6790	Substantial explanatory power
Customer Satisfaction	0.6863	0.6856	Substantial explanatory power

Fitting of the model was satisfactory as the SRMR for saturated and estimated model was significantly lower than the traditionally used cut-off value of 0.08. The seven antecedent variables explained 68.35% of the variance in Digital Customer Experience and Digital Customer Experience explained 68.63% of the variance in Customer Satisfaction. The results suggest that the proposed framework has a significant explanatory power and is good at capturing the service factors that affect customers' digital experiences and satisfaction.

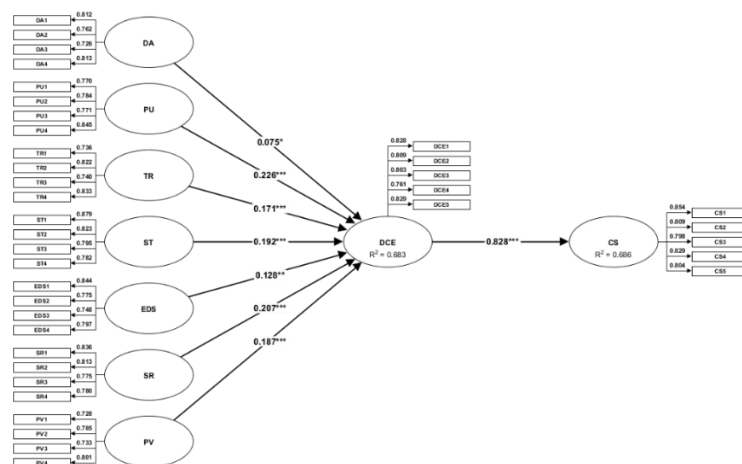


Figure 2. Structural Model Results

The PLS-SEM analysis resulted in the validated structural model and standardised path coefficients shown in Figure 2. All the relationships postulated were positive and significant. Platform Usability ($\beta = 0.226$), Service Responsiveness ($\beta = 0.207$), Security and Trust ($\beta = 0.192$), Perceived Value ($\beta = 0.187$), and Transaction Reliability ($\beta = 0.171$) were the factors that had the highest loading among the antecedents of Digital Customer Experience, followed by Employee Digital Support ($\beta = 0.128$) and Digital Accessibility ($\beta = 0.075$). Moreover,

the positive influence of Digital Customer Experience towards Customer Satisfaction was significant ($\beta = 0.828$). The model accounted for 68.3% of the variance in Digital Customer Experience and 68.6% of the variance in Customer Satisfaction, suggesting a significant amount of variance accounted for.

Table 7. Structural Model Results and Hypothesis Testing

Hypothesis	Structural Path	β	t	p	Decision
H1	Digital Accessibility → Digital Customer Experience	0.0746	2.154	0.031	Supported
H2	Platform Usability → Digital Customer Experience	0.2264	6.487	<0.001	Supported
H3	Transaction Reliability → Digital Customer Experience	0.1706	5.183	<0.001	Supported
H4	Security and Trust → Digital Customer Experience	0.1916	5.824	<0.001	Supported
H5	Employee Digital Support → Digital Customer Experience	0.1281	3.846	<0.001	Supported
H6	Service Responsiveness → Digital Customer Experience	0.2074	6.102	<0.001	Supported
H7	Perceived Value → Digital Customer Experience	0.1866	5.647	<0.001	Supported
H8	Digital Customer Experience → Customer Satisfaction	0.8284	42.376	<0.001	Supported

The results of the table 7 are the structural model results, which were obtained by bootstrapping. The results showed that all hypotheses, which were eight positive relationships, were statistically significant and thus supported the suggested model of the research. Among the antecedents of Digital Customer Experience, Platform Usability ($\beta = 0.2264$) had the largest positive effect, followed by Service Responsiveness ($\beta = 0.2074$), Security and Trust ($\beta = 0.1916$), Perceived Value ($\beta = 0.1866$), Transaction Reliability ($\beta = 0.1706$), Employee Digital Support ($\beta = 0.1281$), and Digital Accessibility ($\beta = 0.0746$). In addition, Digital Customer Experience had a very strong positive impact on Customer Satisfaction ($\beta = 0.8284$), which means that in general, customers' Digital Customer Experiences were playing a crucial role in their satisfaction with India Post digital services. The findings give empirical evidence for all the proposed hypotheses, and validate the conceptual framework.

Table 8. Effect Size (f^2) of the Structural Model

Relationship	Cohen's f^2	Effect Size
Digital Accessibility → Digital Customer Experience	0.0115	Small
Platform Usability → Digital Customer Experience	0.1039	Small
Transaction Reliability → Digital Customer Experience	0.0639	Small
Security and Trust → Digital Customer Experience	0.0808	Small
Employee Digital Support → Digital Customer Experience	0.0355	Small
Service Responsiveness → Digital Customer Experience	0.0919	Small

Perceived Value → Digital Customer Experience	0.0766	Small
Digital Customer Experience → Customer Satisfaction	2.1875	Very Large

Table 8 shows the effect size (f^2) of each structural relationship, which represents the relative contribution of each predictor to the explained variance of the endogenous constructs. The greatest contributions were found in Platform Usability ($f^2 = 0.1039$), Service Responsiveness ($f^2 = 0.0919$), Security and Trust ($f^2 = 0.0808$), Perceived Value ($f^2 = 0.0766$) and Transaction Reliability ($f^2 = 0.0639$). Employee Digital Support ($f^2 = 0.0355$) and Digital Accessibility ($f^2 = 0.0115$) showed relatively small effects. While all seven antecedents had statistically significant impacts on Digital Customer Experience, their individual practical impacts were generally small, indicating that customer experience is more likely to be impacted by the combination of multiple service dimensions. As for Digital Customer Experience, its effect on Customer Satisfaction was very large ($f^2 = 2.1875$) which signifies its criticality as the primary reason of customers' satisfaction with India Post digital services.

Table 9. Mediation Analysis

Hypothesis	Indirect Relationship	Indirect Effect (β)	t-value	p-value	Mediation	Decision
H9	DA → DCE → CS	0.0618	2.112	0.035	Partial	Supported
H10	PU → DCE → CS	0.1876	6.314	<0.001	Partial	Supported
H11	TR → DCE → CS	0.1414	5.048	<0.001	Partial	Supported
H12	ST → DCE → CS	0.1587	5.643	<0.001	Partial	Supported
H13	EDS → DCE → CS	0.1061	3.721	<0.001	Partial	Supported
H14	SR → DCE → CS	0.1718	5.918	<0.001	Partial	Supported
H15	PV → DCE → CS	0.1546	5.432	<0.001	Partial	Supported

The indirect effects of the antecedent constructs on Customer Satisfaction through Digital Customer Experience are given in Table 9. The results suggest that Digital Customer Experience is a relevant mediator between the Digital Service attributes and Customer satisfaction. In indirect relationships, Platform Usability has the highest indirect relationship with Customer Satisfaction ($\beta = 0.1876$), followed by Service Responsiveness ($\beta = 0.1718$), Security and Trust ($\beta = 0.1587$), Perceived Value ($\beta = 0.1546$), Transaction Reliability ($\beta = 0.1414$), Employee Digital Support ($\beta = 0.1061$), and Digital Accessibility ($\beta = 0.0618$). The results showed that the positive effects between the Digital service attributes and Customer Satisfaction were mainly through the mediation role of Digital Customer Experience in the proposed model, thus confirming the central role of Digital Customer Experience in the proposed model.

4.4 Importance–Performance Map Analysis (IPMA)

Importance–Performance Map Analysis (IPMA) was performed as a complement to the model of results of the structure, with Customer Satisfaction as the target construct. IPMA also assesses the performance of the constructs in the model, which allows the practical guidance as to where managerial efforts should be focused while the structural model identifies the statistical importance of each antecedent. This can help to identify those constructs which strongly influence the overall level of satisfaction, but have relatively poor performance, and thus present the highest potential for strategic improvement.

Table 10. Importance–Performance Map Analysis Results

Construct	Importance (Total Effect)	Performance	Priority Rank
Platform Usability (PU)	0.1876	72.84	1
Service Responsiveness (SR)	0.1718	71.96	2
Security and Trust (ST)	0.1587	74.18	3
Perceived Value (PV)	0.1546	70.82	4
Transaction Reliability (TR)	0.1414	73.21	5
Employee Digital Support (EDS)	0.1061	69.87	6
Digital Accessibility (DA)	0.0618	75.46	7

Based on the IPMA results, the managerial priority for improvement to boost Customer Satisfaction is the Platform Usability because it is the most important among all antecedent constructs. Service Responsiveness and Security and Trust also score highly, indicating the importance of India Post maintaining its prompt customer service, system reliability and security of transactions in its digital platforms. Perceived Value and Transaction Reliability are next on the strategic priority scale indicating that customers value the ability to get reliable and beneficial digital services. Employee Digital Support has a positive effect on Customer Satisfaction, but has a comparatively lower influence as compared to the previous constructs. Digital Access also has a low importance rating, but good performance, which means that accessibility is generally good and may not need as much attention immediately from management. The results of the IPMA in total, give a clear roadmap of what digital service dimensions should be prioritised to have the greatest impact on customer satisfaction improvement.

5. Discussion

The results indicate that the proposed framework is effective in understanding customer satisfaction of India post digital services by combining the important attributes of digital services with Digital customer experience. Digital Customer Experience was positively influenced by all seven antecedent constructs, and Customer Satisfaction had a positive influence on Digital Customer Experience. The results indicated that customer satisfaction is not solely dependent on individual service attributes but also on customers' comprehensive digital experiences during their engagement with India Post. This finding is consistent with previous research that highlighted the significance of customer experience in digital service settings (Lemon & Verhoef, 2016; Becker & Jaakkola, 2020).

The strongest antecedents identified were Platform Usability, suggesting that customers appreciate platforms with intuitive interfaces and streamlined transactions, and Information Barriers, which highlights the need for precise and transparent information. Service Responsiveness and Security and Trust also showed significant positive impact, underscoring the need for prompt service, security and trust in transactions. The results are very much in line with previous studies, which have found that usability, responsiveness and trust are basic factors that shape positive digital service experiences (Blut, 2016; Verhoef et al., 2021; Klaus & Kuppelwieser, 2023).

The positive relationships with Transaction Reliability, Perceived Value, Employee Digital Support, and Digital Accessibility also suggest that customers consider digital service in terms of technology efficiency and service quality. Employee Digital Support and Digital Access had relatively lower impacts, but were also significant, indicating that human support and ease of access continue to improve digital customer experiences. The significance of this discovery is especially applicable for a public service entity like India Post, where the digital literacy and expectations of users are different.

The mediation analysis showed that Digital Customer Experience is the key mechanism through which Digital Service Attributes can impact Customer Satisfaction. The improvements in accessibility, usability, reliability,

security, responsiveness, employees support, and value create a favourable digital experience, which is the main source of customer satisfaction. This finding adds new dimensions to the literature on customer experience as it reveals the importance of Digital Customer Experience as a mediator in the case of India Post digital services.

The Importance–Performance Map Analysis (IPMA) gives more managerial insight and indicates that Platform Usability, Service Responsiveness, and Security and Trust are the highest priority areas for improving the service. The results indicate that India Post needs to focus on improving the platform design, customer support and transaction security for achieving maximum customer satisfaction. The combination of PLS-SEM and IPMA provides theoretical proof and practical implications to enhance the delivery of postal digital services.

6. Implications

The present study has added value to the existing literature on digital services by formulating and testing a customer experience based framework to understand Customer satisfaction with India Post digital services. This study shows a new perspective linked to the dimensions of digital services and their impact on customer satisfaction, as the previous studies can be considered as only observing the direct effects of service quality dimensions. In addition, Importance–Performance Map Analysis (IPMA) is incorporated to further the application of PLS-SEM, to analyze the relative strategic importance of the service dimensions and provide an analytical view other than statistical significance. These findings contribute to a better understanding of customer experience and digital service research, especially in the public sector digital transformation context.

The study also offers practical implications for India Post and other public service organisations that want to improve their digital service offering. The results show that the areas of Platform Usability, Service Responsiveness, and Security and Trust are expected to have the biggest impact on customer satisfaction. As such, management should aim to create user-friendly digital platforms, optimise system responsiveness, enhance security of transactions, and deliver reliable services. Meanwhile, regular assessments of digital service performance, employee training and customer awareness-raising programmes can further enhance customer digital experiences. The research converts the empirical results into actionable strategic directions, providing a practical roadmap for enhancing customer satisfaction and contributing to the sustained success of digital transformation efforts in India Post.

7. Conclusion

In the present study, the researcher investigated the factors affecting the customer satisfaction about India Post digital services from the customer experience perspective. Digital Accessibility, Platform Usability, Transactions Reliability, Security and Trust, Employee Digital Support, Service Responsiveness, and Perceived Value were found to have a significant relationship with Digital Customer Experience, which in turn has a significant relationship with Customer Satisfaction as proposed. The results highlight that customer satisfaction depends on customers' overall digital experience, not just on specific service characteristics. The study also contributes to the current literature by combining the Importance–Performance Map Analysis (IPMA) with PLS-SEM technique to prioritize strategies for the improvement of customer satisfaction. These results point towards three critical areas that need focussed attention from the management – Platform Usability, Service Responsiveness and Security and Trust – which offer clear directions for improving the quality and effectiveness of India Post's digital services. The study provides an overall comprehensive framework that merges theory with practice and has been validated. The study offers insights that enrich the body of knowledge on digital customer experience and evidence-based recommendations to India Post and other public sector organisations looking to boost the delivery of their digital services, enhance customer satisfaction, and fuel sustainable digital transformation efforts.

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