

Influence of Digital Banking Services on Customer Perception with Special Reference to the Canara Bank

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Abstract: The present study examines the influence of digital banking services on customer perception with special reference to Canara Bank. With the rapid advancement of digital technology, banking institutions are increasingly adopting customer-oriented online platforms to deliver efficient, accessible, and convenient financial services. The study specifically focuses on selected digital services offered by Canara Bank, namely Net Banking, Bharat Bill Pay, Online Tax Payment services, and Public Finance Management System (PFMS) services, and evaluates their impact on customer perception. A descriptive research methodology was adopted for the study, and primary data were collected from 410 customers using online banking services across selected Canara Bank branches in Bangalore district (Urban and Rural). Data collection was carried out through structured questionnaires, personal interviews, and a 5-point Likert scale. Regression analysis was used to test the hypotheses and analyze the relationship between digital banking variables and customer perception. The findings reveal that Canara Bank's digital banking services significantly influence customer perception. Net Banking and Bharat Bill Pay services demonstrated a strong impact on customer perception, explaining 86.2% of the variation ($R^2 = 0.862$). Factors such as easy account accessibility, fund transfer facilities, online account services, school fee payments, municipal tax payments, and transaction convenience positively influenced customer perception. Similarly, Online Tax Payment and PFMS services significantly influenced customer perception, explaining 87.4% of the variation ($R^2 = 0.874$). Variables such as direct tax payments, TIN 2.0 integration, online challan payments, and reduced payment delays positively affected customer perception. However, some services, including utility bill payments, payment gateways, PFMS through Net Banking, and selected internet banking features, showed limited or negative influence. The study concludes that Canara Bank's digital banking initiatives play a vital role in shaping customer perception and satisfaction. Continuous improvements in service quality, technical efficiency, customer awareness, transparency, and digital support systems are essential to strengthen customer confidence and promote long-term adoption of digital banking services.

Keywords: Digital Banking Services, Customer Perception, Net Banking, Bharat Bill Pay, Online Tax Payments, PFMS, Customer Satisfaction, Canara Bank.

1. INTRODUCTION

The term bank is believed to originate either from the Old Italian word banca or the French word banque, both referring to a bench or money exchange table (Basir, S. N. M., 2022). In ancient Europe, money lenders and money changers used benches or tables to display large quantities of coins from different countries for lending and exchange purposes (Unyathanakorn, K. and Rompho, N., 2014). A bank functions as a financial intermediary that generates credit by lending money to borrowers, which simultaneously creates corresponding deposits in the bank's balance sheet. Such lending activities may occur directly or indirectly through capital markets (Mehta, P., 2015). Owing to their significant role in financial systems and their impact on national economies, banks are subject to strict regulations in many countries (Vigneshwari and Rajagopalan, 2018). The Indian banking sector has experienced major transformations since independence. The process of economic liberalization during the 1990s, coupled with government initiatives to reduce state ownership and privatize banks, led to banking reforms based on the recommendations of the Narasimham Committee (Ankit, S., 2011). Currently, the Indian banking industry is operating in a customer-driven market environment (Unengu, V. K., et al., 2021), where customers enjoy greater freedom in selecting banking institutions. This increased competition has created significant challenges for banks. Customer satisfaction has emerged as a vital factor in business success, especially in the banking sector, where it serves as a key differentiator among commercial banks (Banu, M. A., et al., 2019). Banking institutions worldwide acknowledge that customer satisfaction and the development of long-term customer relationships are essential drivers of enhanced profitability (Thilagaraj, A., et al., 2021). However,

many banking organizations continue to face rising levels of dissatisfaction among retail customers (Chitra, S. and Maheswari, J., 2018). Modern customers are becoming more aware of their rights and increasingly expect higher standards of service. Recent developments indicate that banks are gradually transitioning from a product-oriented approach to a customer-centered model, recognizing customer satisfaction as a crucial determinant of organizational growth (Dabasa, R. and Baja, R., 2019). Consequently, evaluating performance and continuously monitoring customer satisfaction have become essential practices. This explains why banks actively pay attention to customer needs and grievances. In service-based industries, particularly banking, sustained profitability is closely linked to maintaining satisfied customers (Rajput, S. S. K., 2019).

2. CANARA BANK AN OVERVIEW

Canara Bank was founded in 1906 in Mangaluru, a modest port city in South India. The bank was established by Ammembal Subba Rao Pai, a distinguished lawyer, educationist, social reformer, and visionary leader whose contributions laid the foundation for the institution's long-term growth and success. As one of the fourteen banks nationalized on July 19, 1969, Canara Bank experienced substantial expansion in branch operations and business activities during the 1970s (Dhanya, B. K. and Velmurugan, V. P., 2021). This period of growth was also marked by several pioneering efforts in rural development and mass banking initiatives. Canara Bank ranks among the leading public sector banks in India and is recognized as the third largest in the category. As of September 2021, the bank maintained an extensive domestic network of 9,800 branches, including 3,037 rural, 2,796 semi-urban, 1,971 urban, and 1,996 metropolitan branches, along with 12,360 ATMs and recyclers spread across 28 states and 8 Union Territories (Gibson, A., et al., 2022). Rural and semi-urban branches together represented 59.52% of its total branch network. Beyond its strong domestic presence, the bank operated four international branches located in New York, London, Hong Kong, and DIFC, Dubai (Grover, K. L. and Nagar, J., 2022). Additionally, it maintained a representative office in Sharjah, UAE, a joint venture institution known as Commercial Indo Bank LLC in Moscow in collaboration with State Bank of India, and a wholly owned subsidiary, Canara Bank (Tanzania) Ltd., in Tanzania (Hada, B. S., 2016). The bank also manages several domestic subsidiaries, including Canbank Financial Services Limited, Canbank Venture Capital Fund Limited, Canbank Factors Limited, Canara Robeco Asset Management Company Limited, Canbank Computer Services Limited, Canara Bank Securities Limited, Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited, and Synd Bank Services Ltd. In addition, it has an associate company, Can Fin Homes Ltd. The bank further collaborates with the Ministry of Education, Government of India, through a joint venture known as the Higher Education Financing Agency (HEFA) (Hayat, A. and Hossain, F., 2023). Furthermore, Canara Bank sponsors four Regional Rural Banks operating across three states: Karnataka Gramin Bank and Karnataka Vikas Grameena Bank in Karnataka, Kerala Gramin Bank in Kerala, and Andhra Pragathi Grameena Bank in Andhra Pradesh (Joshi, B. P. and Saxena, A., 2018). The bank also performs key leadership roles in banking coordination activities. It serves as the Convenor of the State Level Bankers Committee (SLBC) for Karnataka and Kerala, as well as the Union Territory Level Bankers Committee (UTLBC) for Lakshadweep. Moreover, Canara Bank carries Lead Bank responsibilities in 60 districts across eight states and two Union Territories, including Andhra Pradesh, Bihar, Delhi, Haryana, Karnataka, Kerala, Tamil Nadu, Telangana, Uttar Pradesh, and Lakshadweep (Khan, F. N., et al., 2023). To strengthen specialized business operations, the bank has adopted a market segmentation strategy by establishing dedicated branches such as SME Branches, Retail Assets Hubs, Mid and Large Corporate Branches, Asset Recovery Management Branches, Micro Finance Branches, Digital Banking Branches, NRI Branches, Government Business Branches, Agricultural Finance Branches, Mahila Banking Branches, Capital Market Services Branches, Stock Exchange Branches, Physically Challenged Branches, and Aquaculture Finance Branches (Kiran, G., 2020).

3. CANARA BANK'S ONLINE SERVICES

Net Banking / Online Payments and Bharat Bill Pay

Canara Bank Net Banking is a widely used banking facility offered by the bank, reflecting the increasing digital transformation of financial services (Raja, M. and Deepa, G. C., 2022). In today's technology-driven environment, banking operations have become highly digitalized, encouraging leading banks such as Canara Bank to provide a variety of online banking solutions. Among these, net banking has emerged as one of the bank's most prominent services (Kousika, R. and Ramya, 2020). This facility enables customers to manage their bank accounts and perform a wide range of online transactions conveniently (Mohsin, M. and Ramesh, H. N., 2017). Customers can access Canara

Bank's net banking services through its official website or mobile application from the comfort of their homes. The platform offers users a convenient way to carry out banking activities without the need to visit a physical branch. With the rapid adoption of digital banking, customers can now avoid the inconvenience associated with in-person banking transactions. Canara Bank has introduced internet banking facilities that allow customers to undertake various financial activities and banking operations online (Lakshmipathaiah, M. G., 2021). Through this service, customers can check account information, view account details, pay utility bills, transfer funds, request cheque books or debit cards, and even open accounts remotely. To access these services, customers must first complete the registration process through the bank's official portal. After registration, users can log in using their credentials and begin utilizing the service efficiently (Maheshkumar, M., 2014). (Source: Canara Bank Net Banking and 5Paisa Banking Guide). To support convenient bill payments for the Indian diaspora, Canara Bank partnered with Bharat Bill Payment System (BBPS). This collaboration enables Non-Resident Indians (NRIs) residing in Oman to make payments for utility bills, school fees, municipal taxes, and other obligations in India (Ling, C. M. and Ismail, S. N., 2021). The initiative provides a simple and convenient payment solution for overseas Indians. This innovative facility was introduced on 29 March 2023 through a joint effort involving Canara Bank, Bharat BillPay Limited (NBBL)—a wholly owned subsidiary of the National Payments Corporation of India—and Musandam Exchange, Oman. (Source: Canara Bank Official Website).

Online Tax Payments and PFMS through Net Banking

Canara Bank also offers online tax payment facilities through its net banking platform. The bank supports electronic payment of direct taxes such as Income Tax, Wealth Tax, Corporate Tax, Gift Tax, and related payments. It is integrated with the updated Income Tax e-filing portal (TIN 2.0), enabling customers to make payments using multiple modes, including internet banking, Canara Bank debit cards, and payment gateways that support credit cards, debit cards, net banking, and UPI services of any bank. Additionally, offline payment options such as cash, cheque, and demand drafts from any bank are also available for challan payments. These facilities ensure that tax payments are processed in a seamless, fast, and efficient manner for customers (Murugan, M. S., 2017). (Source: Canara Bank Official Website). Direct Benefit Transfer (DBT) refers to the electronic transfer of government subsidies and benefits directly into beneficiaries' bank or post office accounts. The primary objective of DBT is to ensure timely delivery of benefits while enhancing efficiency, transparency, accountability, and effectiveness within government systems. Through this mechanism, the government aims to minimize delays in payments, improve accurate beneficiary targeting, and reduce leakages, duplication, and irregularities in the distribution of welfare benefits (Tiwari, S., 2022). (Source: Canara Bank Official Website).

4. LITERATURE REVIEW

(Raja, M. and Deepa, G. C.) conducted a study to address the existing gap in understanding customer satisfaction toward online banking services provided by public sector banks and the factors influencing it. Data were gathered from 260 customers using online banking facilities in selected public sector banks located in Chennai city. Only respondents maintaining online banking accounts in these banks were considered for the study (Maheshkumar, M., 2014). Statistical tools such as KMO and Bartlett's Test along with factor analysis were applied for data analysis. The findings indicated that factors including bank competency, website design and user-friendliness, accessibility of online banking, and the ability to fulfill customer requirements significantly affect customer satisfaction regarding online banking services in public sector banks of Chennai (Mohan, N. and John, J., 2014).

(Thilakarathna, K.G.S.S., et al., 2023) carried out a study with three key objectives: to examine the influence of online banking service quality on customer satisfaction during the COVID-19 period in commercial banks of Rathnapura District, to compare this impact across private and public sector banks, and to identify whether demographic variables influence customer satisfaction. The research adopted a positivist approach and deductive reasoning. A sample of 384 online banking users was selected using stratified and purposive sampling methods (Merugu, P. and Vaddadi, K. M., 2018). Multiple regression analysis and Kruskal–Wallis Chi-Square tests were employed for hypothesis testing. Results showed that reliability, responsiveness, assurance, and tangibility positively and significantly influenced customer satisfaction, whereas empathy was found insignificant during the pandemic period. In public sector banks, assurance and tangibility had stronger effects, while in private banks, reliability, responsiveness, and tangibility were significant determinants. The study further revealed that customer satisfaction differs according to demographic characteristics such as age, gender, and education (Yagwani, B., 2023).

(Kiran, G., 2020) examined customer satisfaction with online banking services by focusing on factors influencing satisfaction and assessing customers' satisfaction levels. The study, conducted in 2017, attempted to bridge gaps in understanding customer satisfaction in India's online banking environment. Data were collected from 200 online banking users, and analytical tools such as KMO and Bartlett's Test and factor analysis were utilized. Findings demonstrated that prompt response from banks, security measures, website design and ease of use, reliability and trustworthiness, competency, and website efficiency significantly influence customer satisfaction in online banking.

(Padmaavathy and Ramadevi, V., 2019) investigated customer satisfaction toward various banking services in Coimbatore city. Primary data were obtained from 200 respondents and analyzed using appropriate statistical techniques. The chi-square results revealed that educational background, marital status, and monthly income significantly affected customer satisfaction, whereas variables such as age and gender did not significantly influence customer satisfaction toward online banking services.

(Sandhya, S., 2021) conducted a study among customers of State Bank of India in Mysore city regarding online banking usage. Online banking, or electronic banking, allows customers to access account information, conduct financial transactions, deposit or withdraw money, and make bill payments via the internet without visiting bank branches. The study included 50 respondents who used SBI's online banking services. Findings revealed that customers were largely satisfied with the online banking services offered by SBI. However, despite the availability of multiple online services, customers were not fully utilizing them. Therefore, the study suggested that customers should make better use of the digital facilities provided by banks.

(Pradhan, S., 2019) analyzed customer satisfaction and acceptance levels regarding online banking services at Nepal SBI Bank. The study involved 75 respondents. Based on questionnaire analysis, customers were found to be satisfied with online banking in terms of product offerings, perceived ease of use, website appearance, security and privacy, cost effectiveness, responsiveness, and computer self-efficacy. Nevertheless, the researcher observed that many customers, particularly elderly customers, lacked awareness about online banking services. Consequently, the study recommended stronger awareness programs, advertising efforts, and customer education initiatives related to online banking services and their benefits.

(Mohan, N. and John, J., 2014) examined customer awareness, satisfaction, and challenges related to electronic services offered by nationalized banks. Information was gathered through questionnaires focusing on technology-based banking services. Secondary information was also collected from journals, magazines, and internet sources. A random sample of 200 customers from various nationalized banks participated in the study. The results indicated that most respondents were familiar with online banking activities, and approximately 79 percent expressed satisfaction with the online banking services offered by banks. The study also found no significant relationship between age and access to internet banking, nor between educational qualification and internet banking payment practices.

(Ingle, D. V., 2017) conducted a localized study in Akola city focusing on customers of SBI, where awareness of online banking services was expected to be relatively high. The study used a convenience sampling technique and included 110 respondents. Findings revealed that customers willing to pay higher charges for online banking services valued benefits such as speed, convenience, accessibility, reduced waiting time, efficiency, time savings, and instant account information. Regarding ATM services, respondents appreciated 24-hour access to funds, time savings, convenience, and reduced dependency on bank staff.

(Dhanya, B. K. and Velmurugan, V. P., 2021) investigated the role of selected demographic variables in shaping perceptions of internet banking service quality, customer value, satisfaction, and trust within the Indian banking industry. Data were collected from 290 customers of Indian public sector banks. The findings demonstrated that highly educated and higher-income customers, who frequently use internet banking and have longer experience with it, tend to hold more favorable opinions about internet banking services. However, factors such as age and gender showed limited influence on customers' perceptions regarding efficiency, value, satisfaction, and loyalty toward internet banking services.

(Panchal, N. and Kunjan, B., 2022) studied customer satisfaction regarding online banking services offered by SBI, focusing on satisfaction levels, problems encountered during online banking, and the factors influencing satisfaction. Primary and secondary data were collected from customers using SBI's online banking services, with a total sample size of 263 respondents. Data collection was conducted using structured questionnaires distributed through Google Forms. The study found that internet banking enables customers to perform several activities, including fund transfers, balance inquiries, utility bill payments, and online ticket reservations. A majority of internet banking users belonged to service, business, and student categories. The findings also suggested that SBI performs better than many other Indian banks across several service quality dimensions.

(Raghavendra, B. and Kumar, S. P., 2016) explored customer satisfaction with internet banking services and the impact of demographic factors on satisfaction levels. The study analyzed the opinions of 248 customers in the Rayalaseema region. Results identified prompt response, security, and website design and user-friendliness as the primary factors affecting customer satisfaction. Demographic variables such as gender, age, education, and income significantly influenced customer satisfaction with internet banking services, while occupation and marital status showed no significant effect. The study recommended that banks tailor their products and services to meet the needs of customers across different demographic groups.

5. STATEMENT OF THE PROBLEM

The rapid advancement of digital technology has significantly transformed the banking sector, encouraging banks to shift from traditional branch-based services to customer-oriented digital platforms. Online banking services such as net banking, online bill payments, digital tax payments, and Public Finance Management System (PFMS) services have become essential components of modern banking operations. These services are designed to provide convenience, accessibility, efficiency, and faster transaction processing for customers. As a leading public sector bank, Canara Bank has introduced several digital banking facilities, including Net Banking, Bharat Bill Pay, Online Tax Payments, and PFMS services, to improve customer experience and enhance service delivery. Despite the growing adoption of digital banking, customer perception toward these services varies depending on factors such as ease of use, reliability, accessibility, security, responsiveness, and service efficiency. Previous studies have highlighted that customer satisfaction and perception toward online banking are influenced by website design, service quality, trust, security measures, and demographic characteristics. However, many customers still face challenges related to awareness, technical difficulties, limited utilization, and service expectations in digital banking environments. Although substantial research has been conducted on online banking customer satisfaction in public sector banks, limited studies have specifically examined customer perception toward Canara Bank's specialized digital services such as Net Banking, Bharat Bill Pay, Online Tax Payment facilities, and PFMS services. Understanding how customers perceive these services is essential for identifying strengths, addressing service gaps, and enhancing digital banking effectiveness. Therefore, the present study attempts to examine the impact of Canara Bank's Net Banking and Bharat Bill Pay services on customer perception and to explore the influence of Online Tax Payments and PFMS services on customer perception. Based on the findings, the study also seeks to provide suitable recommendations for improving the digital services offered by Canara Bank and enhancing overall customer experience and satisfaction.

6. SCOPE OF STUDY

This study focuses on examining the impact of selected online banking services offered by Canara Bank on customer satisfaction. With the growing importance of digital banking, the study aims to understand the extent to which Canara Bank has improved its e-banking services to meet customer expectations and requirements. The research specifically considers important digital banking variables such as Net Banking services, Bharat Bill Pay, Online Tax Payment Services, and PFMS (Public Finance Management System) services provided by Canara Bank and their influence on customer satisfaction. These online services play a crucial role in delivering convenient, efficient, and accessible banking experiences to customers. The study intends to analyze how customers perceive these services and their level of satisfaction with the bank's digital offerings. The scope of the research is geographically confined to Bangalore district (Urban and Rural), and the findings are limited to customers using Canara Bank's online banking services within this study area.

7. OBJECTIVES OF THE STUDY

- 1.To find out the impact of Canara Bank's net banking and Bharat Bill Pay services on Customer perception.
- 2.To explore the influence of Canara Bank's Online Tax Payments and PFMS (Public Finance Management System) Services on Customer perception.
- 3.To provide the suitable recommendation for the digital services provided by the Canara Bank

8. HYPOTHESIS OF THE STUDY

H1: There is a significant impact of Canara Bank's net banking and Bharat Bill Pay services on Customer perception.

H0: There is no significant impact of Canara Bank's net banking and Bharat Bill Pay services on Customer perception.

H2: There is a significant influence of Canara Bank's Online Tax Payments and PFMS (Public Finance Management System) Services on Customer perception.

H0: There is no significant influence of Canara Bank's Online Tax Payments and PFMS (Public Finance Management System) Services on Customer perception.

9. RESEARCH METHODOLOGY

The present study adopted a descriptive research methodology to examine the selected variables related to online banking services. For the purpose of the study, the researcher selected various Canara Bank branches located across Bangalore District (Urban & Rural). Primary data were collected randomly from customers associated with these branches, with particular focus on customers who actively use online banking services. To obtain comprehensive and reliable information, the researcher employed structured questionnaires along with personal interviews as data collection techniques. The questionnaires were specifically designed to gather detailed responses regarding customer experiences, perceptions, and satisfaction levels toward the bank's digital services. A 5-point Likert scale was used in constructing the questionnaire to measure the degree of agreement or disagreement of respondents toward different study variables. The use of both questionnaires and interviews enabled the researcher to obtain a deeper understanding of customer opinions and generate meaningful insights for the study.

10. SAMPLE SIZE (Simple Random Sampling Techniques was used in the study)

Table 1: Samples Selected for the Study

SL. No	Bank Name	Number of Branches in Bangalore District (Urban & Rural)	Number of Branches Selected	Number of Respondents Targeted	Number of Respondents Responded	Percentage of respondents
1	Canara Bank	169	95	410	410	100%

Branch Data Source: <https://banksifscode.com/>

i) Primary data

Primary data for the study were collected using a self-administered structured questionnaire, which was developed by the researcher and distributed to respondents for completion. In addition to the questionnaire method, personal interviews were conducted to obtain detailed information and a clearer understanding of respondents' opinions and experiences. The structured questionnaire was designed using a 5-point Likert scale to measure respondents' level of agreement toward different statements, where 1 = Strongly Agree, 2 = Agree, 3 = Cannot Say, 4 = Disagree, and 5 = Strongly Disagree. The respondents selected for the study comprised customers who actively utilize the online banking services offered by Canara Bank branches located in Bangalore district (Urban and Rural). This approach enabled the researcher to gather reliable primary data regarding customer perceptions, experiences, and satisfaction with the bank's digital services.

ii) Secondary Data

The information for the study was collected from selected peer-reviewed articles obtained through recognized bibliographic databases such as Emerald, Sage Journals Online, Science Direct, Scopus, Taylor & Francis Online, Web of Science, and Wiley Online Library. Peer-reviewed journal articles were chosen because of their academic credibility, reliability, and significant contribution to the research domain. In addition to these scholarly sources, relevant data were also gathered from various secondary sources, including online electronic resources, annual reports of private and public sector banks, academic journals, theses, magazines, research papers, newspapers, and other published materials. These diverse sources provided comprehensive and dependable information to support the study and strengthen the theoretical and empirical foundation of the research.

11. DATA ANALYSIS

H1: There is a significant impact of Canara Bank's net banking and Bharat Bill Pay services on Customer perception.

H0: There is no significant impact of Canara Bank's net banking and Bharat Bill Pay services on Customer perception.

Model Summary							
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate		
1	.928 ^a	.862	.858		.39612		
ANOVA ^b							
Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	388.108	12	32.342	206.117	.000 ^a	
	Residual	62.294	397	.157			
	Total	450.402	409				
Coefficients ^a							
Model			Unstandardized Coefficients		Standardized Coefficients	Sig.	
			B	Std. Error	Beta		t
1	(Constant)		-.090	.099		-.910	.363
	Net banking.		-.471	.048	-.565	-9.895	.000
	Easily access of our A/c's		.087	.042	.104	2.087	.038
	View our details		-.063	.031	-.085	-2.048	.041
	Pay bills		-.109	.036	-.134	-3.057	.002
	Transfer of funds		.295	.038	.330	7.837	.000
	Request cheque books or cards		.467	.062	.438	7.517	.000
	Open A/c's etc.		.364	.036	.450	9.997	.000
	Bank's official website visit and net banking registration		.051	.017	.057	2.978	.003
	Payment of utility bills		.027	.044	.027	.599	.550
	Payment of school fees		.116	.042	.130	2.733	.007
	Payment of municipal taxes		.106	.043	.130	2.470	.014
	Bharat billpay Transactions		.108	.041	.136	2.630	.009
a. Dependent Variable: Customer perception							

The regression analysis was conducted to examine the impact of Canara Bank's Net Banking and Bharat Bill Pay services on customer perception. The model summary indicates a strong relationship between the independent variables and customer perception, with an R value of 0.928. The R Square value of 0.862 shows that 86.2% of the variation in customer perception is explained by the selected variables related to Net Banking and Bharat Bill Pay services. The adjusted R Square value of 0.858 confirms the good explanatory power of the model. The ANOVA results reveal that the regression model is statistically significant ($F = 206.117$, $p = 0.000 < 0.05$), indicating that the independent variables collectively have a significant influence on customer perception. Hence, the alternative hypothesis (H1) is accepted and the null hypothesis (H0) is rejected. The coefficient analysis shows that several variables significantly influence customer perception. Variables such as easy access to accounts ($p = 0.038$), transfer of funds ($p = 0.000$), request for

cheque books or cards ($p = 0.000$), opening accounts online ($p = 0.000$), visiting the bank's official website and net banking registration ($p = 0.003$), payment of school fees ($p = 0.007$), payment of municipal taxes ($p = 0.014$), and Bharat Bill Pay transactions ($p = 0.009$) have a significant positive impact on customer perception. In contrast, payment of utility bills ($p = 0.550$) does not significantly influence customer perception. Certain variables, including Net Banking, viewing account details, and bill payments, display negative coefficient values, indicating an inverse relationship with customer perception despite being statistically significant. Therefore, the findings conclude that Canara Bank's Net Banking and Bharat Bill Pay services play a significant role in shaping customer perception, with service accessibility, transaction convenience, online facilities, and digital payment features emerging as important determinants of customer perception.

H2: There is a significant influence of Canara Bank's Online Tax Payments and PFMS (Public Finance Management System) Services on Customer perception.

H0: There is no significant influence of Canara Bank's Online Tax Payments and PFMS (Public Finance Management System) Services on Customer perception.

Model Summary						
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	
1	.935 ^a	.874	.870		.47478	
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	618.621	12	51.552	228.700	.000 ^a
	Residual	89.489	397	.225		
	Total	708.110	409			
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.227	.114		-1.996	.047
	E- payment of direct taxes	.488	.057	.414	8.599	.000
	New Income tax e-filing portal (TIN2.0)	.373	.050	.347	7.435	.000
	Tax payment modes - Internet Banking	-.139	.061	-.097	-2.272	.024
	Debit Cards of Canara Bank and	.070	.046	.062	1.526	.128
	Payment Gateway	-.035	.065	-.028	-.530	.596
	online challan payments	.193	.044	.178	4.346	.000
	Over the counter (Cash Cheque DD of any Bank)	.241	.034	.239	7.051	.000
	Sukanya Samriddhi Payment	-.089	.046	-.083	-1.930	.054
	(PFMS) through Net Banking	.132	.087	.126	1.521	.129
	Timely transfer of benefit to the citizen	-.122	.087	-.100	-1.396	.163
	Government's efficiency effectiveness transparency	-.461	.066	-.443	-7.012	.000
Reduce delays in payments	.462	.067	.364	6.909	.000	
a. Dependent Variable: Customer perception						

The regression analysis was conducted to examine the influence of Canara Bank's Online Tax Payment and PFMS (Public Finance Management System) services on customer perception. The model summary indicates a strong association between the independent variables and customer perception, as evidenced by an R value of 0.935. The R Square value of 0.874 implies that 87.4% of the variation in customer perception is explained by the selected variables relating to Online Tax Payment and PFMS services. The Adjusted R Square value of 0.870 further confirms the robustness and explanatory strength of the regression model. The ANOVA results demonstrate that the model is statistically significant with an F value of 228.700 and a significance level of 0.000 ($p < 0.05$). This indicates that the independent variables collectively exert a significant influence on customer perception. Therefore, the alternative hypothesis (H2) stating that there is a significant influence of Canara Bank's Online Tax Payment and PFMS services on customer perception is accepted, while the null hypothesis (H0) is rejected. The coefficient analysis reveals that several variables significantly affect customer perception. Variables such as e-payment of direct taxes ($\beta = 0.488$, $p = 0.000$), New Income Tax e-filing portal (TIN 2.0) ($\beta = 0.373$, $p = 0.000$), online challan payments ($\beta = 0.193$, $p = 0.000$), over-the-counter payments through cash, cheque, and demand drafts ($\beta = 0.241$, $p = 0.000$), and reduction in delays in payments ($\beta = 0.462$, $p = 0.000$) show a significant positive influence on customer perception. These findings suggest that efficient tax payment mechanisms, improved digital platforms, and quicker payment processing positively shape customers' perceptions of Canara Bank's digital services. Conversely, some variables exhibit statistically significant negative relationships with customer perception. Tax payment through internet banking ($\beta = -0.139$, $p = 0.024$) and government efficiency, effectiveness, and transparency ($\beta = -0.461$, $p = 0.000$) show significant inverse effects on customer perception. Meanwhile, variables such as Debit Cards of Canara Bank ($p = 0.128$), Payment Gateway services ($p = 0.596$), Sukanya Samriddhi Payment ($p = 0.054$), PFMS through Net Banking ($p = 0.129$), and timely transfer of benefits to citizens ($p = 0.163$) do not significantly influence customer perception, as their significance values exceed the 0.05 threshold. Overall, the findings indicate that Canara Bank's Online Tax Payment and PFMS services significantly influence customer perception. Features related to direct tax payments, digital tax portals, challan payment facilities, and timely payment processing contribute substantially to shaping positive customer perceptions toward the bank's online financial services.

12. RESEARCH FINDINGS

1. The study found that Canara Bank's online banking services significantly influence customer perception toward digital banking services.
2. Net Banking and Bharat Bill Pay services collectively have a strong impact on customer perception, as indicated by the high explanatory power of the regression model ($R^2 = 86.2\%$).
3. Easy accessibility to customer accounts through Net Banking positively and significantly affects customer perception.
4. Fund transfer facilities provided through Canara Bank's Net Banking services significantly improve customer perception.
5. Online services such as requesting cheque books/debit cards and opening accounts online positively influence customer perception.
6. Visiting the bank's official website and completing Net Banking registration significantly contribute to favorable customer perception.
7. Bharat Bill Pay services, particularly school fee payments, municipal tax payments, and transaction facilities, positively affect customer perception.
8. Payment of utility bills through Bharat Bill Pay does not show a significant influence on customer perception.
9. Certain Net Banking variables such as Net Banking usage, viewing account details, and online bill payments exhibit a significant but negative relationship with customer perception.
10. Online Tax Payment and PFMS services strongly influence customer perception, explaining 87.4% of the variation in customer perception ($R^2 = 87.4\%$).
11. E-payment of direct taxes, the Income Tax e-filing portal (TIN 2.0), online challan payments, and reduction in payment delays positively and significantly influence customer perception.
12. Variables such as debit card payments, payment gateways, PFMS through Net Banking, Sukanya Samriddhi payments, and timely transfer of benefits to citizens do not show significant influence on customer perception.

13. SUGGESTIONS OF THE STUDY

1. Canara Bank should further strengthen its Net Banking platform by improving ease of navigation, accessibility, and user-friendly interface design.
2. The bank should enhance the reliability and speed of online fund transfer services to improve customer confidence and satisfaction.
3. Greater emphasis should be placed on improving online account management services such as account viewing, bill payments, and account opening facilities.
4. Canara Bank should simplify the Net Banking registration process and improve awareness regarding digital banking access through its official website.
5. The bank should expand awareness campaigns and customer education programs regarding Bharat Bill Pay services and their benefits.
6. Special attention should be given to improving utility bill payment services, since this variable did not significantly influence customer perception.
7. The bank should strengthen the functionality and convenience of Online Tax Payment services to ensure seamless tax transactions.
8. Canara Bank should improve the performance and usability of tax payment through Internet Banking to address its negative influence on customer perception.
9. Additional efforts should be made to enhance customer trust in government-linked digital services such as PFMS by improving transparency, communication, and operational clarity.
10. The bank should improve awareness and usage of underutilized services such as PFMS through Net Banking, payment gateway services, and Sukanya Samriddhi payment facilities.
11. Continuous technical support, prompt grievance handling, and digital assistance services should be provided to customers to reduce difficulties in using online banking platforms.
12. Canara Bank should conduct regular customer feedback surveys and service quality evaluations to identify service gaps and continuously improve its digital banking services and overall customer experience.

14 LIMITATIONS OF THE STUDY

The study was geographically limited to Bangalore district (Urban and Rural); therefore, the findings may not represent customers of Canara Bank in other regions.

1. The research focused only on Canara Bank customers, limiting the scope for comparison with other public or private sector banks.
2. The study considered only selected digital services such as Net Banking, Bharat Bill Pay, Online Tax Payments, and PFMS, excluding other online banking services.
3. The findings are based primarily on customer perceptions and self-reported responses, which may involve personal bias or subjective judgment.
4. The sample size of 410 respondents may not fully represent the entire population of Canara Bank online banking users.
5. Time constraints restricted the researcher from conducting a long-term or longitudinal study on changing customer perceptions.
6. Demographic, technological, and behavioral factors influencing customer perception were not examined in depth.
7. Rapid developments in digital banking technology may affect the relevance of findings over time.

15. DIRECTIONS FOR FUTURE RESEARCH

Future research may expand the scope of the study by including customers from different cities, states, and rural areas to obtain a broader understanding of customer perception toward digital banking services. Comparative studies between public sector and private sector banks can be conducted to identify differences in online banking service quality and customer satisfaction. Researchers may also examine additional digital banking services such as mobile banking applications, UPI services, digital wallets, AI-based banking support, and cybersecurity features. Future studies can

incorporate demographic, psychological, and technological variables to understand their influence on customer perception and usage behavior. Longitudinal research may be undertaken to assess changing customer attitudes toward digital banking over time. Qualitative approaches such as focus groups and case studies may provide deeper insights into customer experiences, service challenges, and expectations regarding digital banking services offered by Canara Bank and other banking institutions.

16. CONCLUSION

The present study examined the impact of Canara Bank's selected online banking services on customer perception, with special emphasis on Net Banking, Bharat Bill Pay, Online Tax Payment, and PFMS services. The findings indicate that digital banking services play a significant role in shaping customer perception and satisfaction. Regression analysis revealed that Net Banking and Bharat Bill Pay services strongly influence customer perception, with factors such as easy account accessibility, fund transfer facilities, online account services, school fee payments, municipal tax payments, and transaction convenience contributing positively to customer opinions. Similarly, Online Tax Payment and PFMS services demonstrated a significant influence on customer perception, particularly through direct tax payments, TIN 2.0 portal integration, challan payments, and reduced payment delays. However, certain variables such as utility bill payments, payment gateways, PFMS through Net Banking, and some internet banking features showed limited or negative influence on customer perception, indicating areas requiring improvement. The study highlights the growing importance of customer-centric digital banking strategies in the competitive banking environment. Based on the findings, it can be concluded that Canara Bank's online banking initiatives substantially contribute to customer perception, but continuous improvements in service quality, awareness, technical efficiency, and customer support are essential to strengthen customer confidence, satisfaction, and long-term digital banking adoption.

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