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Original Article

Influence of Demographic and Behavioral Characteristics on Customers' Perceptions of Banking E-service Quality

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Abstract *- The study provides an enhanced understanding of the customer's perceptions of banking E-service quality by considering their demographic and behavioral characteristics in the context of the Indian banking Industry. Customers' overall perceptions of banking E-service quality are measured by the eight most critical dimensions, reliability, efficiency, responsiveness, ease of use, security, visual appeals, credibility, and personalization are identified with the help of an existing literature review. The study has followed a descriptive approach and quantitative research methods. Primary data is collected with the help of an online and offline questionnaire by employing the purposive sampling method from the customers of the major public and private sector banks of Delhi/NCR. A total of 400 usable responses are received and further undertaken for the analysis. Data is analyzed using an independent sample t-test and one-way ANOVA using SPSS 26 version. The study's findings revealed that customer behavioural characteristics, rather than demographic characteristics, have a greater influence on customers' perceptions of banking E-service quality.*

Keywords *- Customers perceptions, Demographic characteristics, Behavioral characteristics, E-service quality, Banking industry.*

1. Introduction

Technology has revolutionized everything, and banks are no exception to that. Digital disruption has redefined the way the financing sector operates and functions. To stay ahead of the competition, every industry is assessing options and adopting ways to capture value in this technology-driven era. The banking industry is the backbone of every economy. Banks have a significant role to play in developing the financial sector. With the growth of technology, society is being confronted with an unprecedented digital orientation. Since the introduction of internet banking in India, the number of internet users has increased substantially; however, the number of E-banking users has not increased in the same proportion (Sardana & Bajpai, 2020). Consumers in developing economies are hesitant to use E-banking services due to a lack of trust. Thus it becomes imperative to get their perspective on the banking E-services.

E-service quality is the customers' overall evaluation of the E-service delivery in the virtual marketplace (Santos, 2003). It is the basic requirement of good performance for electronic channels. It highly contributes to achieving business goals (Agrawal et al. 2018). Banks have started to recognize that taking care of their customers' needs results. Customers judge the quality of services based on their perceptions. Perception is a subjective comparison made by the customers between what they expect and what they receive while availing of a service (Salome & Ayotunde et al., 2022) and has been dependent on customers' various socio-demographic backgrounds (Trang, 2022). If their perception is good and optimistic about the service offered, its quality is good. Moreover, higher perceived values also improve customer satisfaction (Rao & Rao, 2018).

Customers' characteristics have received considerable attention in recent years, but in the case of E-banking, there is still a lack of studies examining the influence of demographic and behavioral characteristics on customers' overall perceptions of banking E-service quality (Gupta & Bansal, 2011; Lal & Vij et al., 2014; Glara & Franco, 2017; Rezapour & Peykani, 2017; Sultan, 2017; Pillai & Balaji, 2019; Mujinga, 2020; and Trang, 2022). Customers' personal characteristics have a bearing on influencing their perceptions and behaviours. Understanding what customers value in an online transaction requires understanding customers' perceived E-service quality (Singh, 2019). Furthermore, investigating customers' perceptions of service quality enables the management to improve its operations (Paposa & Ukinkar, 2019), and it will also help the bankers and the top management make suitable strategies (Ahmad et al., 2021). To fill these existing gaps, the study aims to measure the influence of customers' demographic and behavioral characteristics on their perceptions of banking E-Service quality.

2. Review of Literature

The literature review is divided into two parts to determine the banking E-service quality dimensions and factors influencing customers' demographic and behavioral characteristics. The first part covers the studies identifying E-service quality dimensions across various industries, and the second part consists of the various studies measuring

the influence of various factors on customers' perceptions of banking E-service quality.

The literature analysis shows that several studies have been conducted on various themes such as insurance, tourism, hospitality, online apparel shopping, university libraries, online banking etc.

With a thorough review of the literature analysis, the most common and critical E-service quality dimensions to measure the customers' overall perception are *reliability, efficiency, responsiveness, ease of use, security, visual appeals, credibility and personalization*.

Table 1. E-service quality dimensions across various industries

Sr. no.	Author	Year	Domain	Sample	E-service Quality Dimensions
1.	Einasto	2014	University Library	Estonia	Security, Relevance, Feedback, Empathy, Reliability, Credibility, Competence, Dialogue, Responsiveness, User-Friendliness, Assurance, Speed, Clarity, Participating, Aesthetics
2.	Kaur and Sharma	2015	Tourism Industry	Punjab	Personalization, Reliability, Design, Information, Security, Ease of Use
3.	Malviya	2015	Mobile Banking	Indore	Convenience and Efficiency, Reliability, Security and Assurance, Responsiveness
4.	Noorshella and Abdullah	2015	Online Apparel Business	Malaysia	Payment and Transaction, Expected Delivery Service, Expected Customer Services, General Belief, Information Quality, Security, Merchandise Attributes, Website Design
5.	Qureshi and Bhat	2015	Insurance	Jammu and Kashmir	Competence, Personalized Financial Planning, Similarity with Agent, Assurance, Corporate Image, Tangibles
6.	Hahn and Sparks et al.	2017	Hotel Websites	Australia and Korea	Locality information, Emotional Engagement, Atmospheric Quality, Reliable Information, Reviews, Functionality
7.	Li	2018	Online Travel Agency	Shanghai	Visual Appeal, Information Quality, Ease of Use, Interactive Service Quality
8.	Rita and Oliveira et al.	2019	Online Shopping	Indonesia	Customer Service, Fulfilment, Privacy/Security, Website Design
9.	Khan and Zubair et al.	2020	B2C Online Shopping	Pakistan	Responsiveness, Trust, Privacy, Reliability, Website Design
10.	Kaur and Kaur et al.	2020	Online Banking	Chandigarh & Delhi	System availability, Reliability, Security, Assurance, Information Quality and usability, Efficiency
11.	Shayganmehr and Montazer	2020	University Websites	Iran	Usability, Website Design, Information and Content Quality, Security, Participation, Trust, Maintenance and Support, Responsiveness
12.	Veloso and Magueta et al.	2020	Retail Industry	Portugal	Efficiency, Reliability, Fulfilment, Security, and Guarantee
13.	Muzakir and Bachri et al.	2021	Online Travel Services	Indonesia	Efficiency, Customer services, Website Design, Incentives, Fulfillment, Privacy/ Security
14.	Salome and Ayotunde et al.	2022	e-channels	Nigeria	Reliability, Fulfillment, Security, Responsiveness, Website Appearance, Personalization, Ease of Use

**Prepared by the authors*

Reliability refers to the "banks' commitment to the promised service at the promised time"; Efficiency means "customer's convenience in accessing the E-service; Responsiveness refers to the "ability of the bank to prompt response to customers' query"; Ease of use refer to the "degree of customers' friendliness in the E-service offered"; Security refers to the "customers' confidence with the associated bank" Visual appeal refers to the "aesthetics and appearance of the E-banking platform"; Credibility refers to the "customers' faith and trustworthiness with the service provider"; Personalization refers to the "individualized offerings by the banks to the E-service users". Furthermore, studies conducted on measuring the influence of customers' demographic and behavioral characteristics on their perceptions of the banking E-service quality are listed below in table 2.

Table 2. Influence of various factors on customers' perceptions of banking E-service quality

Sr. No.	Author and Year	Year	Data Analysis	Factors	Findings
1.	Raman and Alam et al.	2008	ANOVA	Internet banking users (light/Medium/heavy) & Internet banking non-users	E-service quality perceptions differ across the users and non-users of internet banking services, and further, it does not differ significantly between light, medium, or heavy users.
2.	Gupta and Bansal	2011	ANOVA and MANOVA	Gender, Age, Occupation, Education, Income	Customer perceptions are influenced by gender, occupation, and income level, whereas age and education did not significantly influence them.
3.	Camilleri and Cortis et al.	2014	T-test	Satisfied customers and Dissatisfied customers	Perceptions of E-service quality differ significantly between satisfied and dissatisfied customers across reliability, responsiveness, and access. At the same time, it does not differ much across communication and security.
4.	Lal and Vij et al.	2014	Z-test, ANOVA, Multiple Regression	Gender, Income, Age, Marital Status, Occupation, and Educational Qualification	Gender, education, and occupation are found as significant determinators for the perceptions of the banking E-service quality for both Indian and foreign banks. In addition, age was also found to impact customers' perceptions of E-service quality in foreign banks.
5.	Shanmugam and Wang et al.	2015	Qualitative Approach	--	E-banking services are most commonly used by customers for the payment of bills and transferring money. In addition, security issues are a major hindrance in influencing customers to adopt internet services.
6.	Ali	2016	Multiple Regression	Information, Security and Privacy, Perceived Ease of Use, Perceived Enjoyment, Perceived Usefulness, Quality of Internet	Out of the dimensions of online banking information, security and privacy, perceived enjoyment and usefulness were identified as the major factors impacting customers' acceptance of E-banking.
7.	Mansour and Eljelly et al.	2016	Regression	ATM, Mobile Banking, Internet Banking	Customers' overall perceptions and usage intention of banking E-services differentiate between all three types of services, whereas minimum differentiation was observed between inter and mobile banking services.
8.	Glara and Franco	2017	Descriptive statistics	Private and Public Sector banks	Private-sector banks can meet customers' needs better than public-sector banks. Out of the factors identified, ease of use was the motivating factor for adopting banking E-services.
9.	Redda and Surujlal	2017	Focused interviews	Qualitative Analysis	E-banking services create value for customers in terms of time and travel costs compared to traditional banking. Privacy and security came out to be major concerning dimensions of E-service quality.
10.	Rezapour and Peykani	2017	ANOVA and T-test	Gender, the beauty of the website, job, education, duration of usage of banking E-service,	All the identified factors significantly influenced customers' perceptions of banking E-service quality. Whereas their perceptions are not found to be differentiated between private, public, and altered banks.
11.	Sultan	2017	T-test and ANOVA	Gender, Age, Occupation, Income, Education, And Religion	Except for gender and education, all other demographic factors came out to be significant determinators of customers' perceptions of banking E-service quality.

12.	Pillai and Balaji	2019	T-test and ANOVA	Public and Private Sector banks	The study confirmed the existence of a significant service quality gap among the customers of public and private sector banks. Further, compared to the customers of the public sector banks, the private banks' customers perceived better service quality.
13.	Mujinga	2020	T-test and ANOVA	Gender, Age, Experience, Income, Use frequency, Bank, Device	Except for the factor variable device (mobile, desktop, both), no other factors came out to be significant in influencing customers' perceptions about Banking E-service quality.
14.	Trang	2022	T-test and ANOVA	Gender, living place, years of experience, occupation, level of education, income, age, number of current E-banking providers	Customers' perceptions were found to be impacted by gender, occupation, living place and experience. Education income, age and variety-seeking were not found to be significant while shaping customers' perceptions.

**Prepared by the authors*

Analysis of the literature review shows that customers' personal characteristics, including their behavioral and demographic characteristics, influence their overall perception of E-service quality. A review of the literature identifies critical factors measuring customers' demographic characteristics as gender, level of education, type of occupation, and income level. Moreover, factors measuring customers' behavioral characteristics are identified as the type of bank, duration of association with the bank, duration of usage of banking E-service, and frequency of using banking E-services, respectively.

3. Research Methodology

The study used a descriptive cross-sectional research design for its purpose. The universe for the study consists of customers using banking E-services. The study sample consists of the customers of two major public sector banks (SBI and PNB), as well as two major private sector banks (HDFC and ICICI) of Delhi/ NCR. The data for the analysis was collected by using a questionnaire. The questionnaire was distributed in both an online and offline manner. A total of 426 responses were received by employing the purposive sampling method. Out of the 426 questionnaires, 26 were not found usable due to missing responses or unsuitability for the sample. Thus, the remaining 400 responses were taken for further analysis. Out of these, 127 questionnaires were received offline, and 273 were received online. To ensure the quality of the responses received, the respondent must be more than 18 years of age, have a bank account, and have been using banking E-services for at least more than six months.

The questionnaire includes items to collect information about respondents' demographics (age, gender, level of education, type of occupation, income level), behavioral pattern (type of bank, duration of association with bank, duration of using of banking E-services and frequency of using banking E-services), and perception about banking E-service quality measured by eight dimensions identified based on the available literature namely, reliability, efficiency, responsiveness, ease of use, security, visual appeal, credibility and personalization consisting of 35 items measured on a 5-point likert scale, ranging from strongly disagree to agree strongly. The pilot testing of the questionnaire was undertaken on a sample of 72, and the suggested changes in terms of language and others were made. The reliability of the questionnaire was established by using Cronbach's alpha measure >0.7.

Independent sample t-test and one-way ANOVA using post hoc Tukey analysis were used to check the statistical significance of customers' perception of banking E-service quality for the underlined parameters. T-test judge the significance of the difference between the means of two groups (Kothari, 2004). ANOVA investigates the number of factors influencing the dependent factor and the differences in categories within these factors (Chawla & Sondhi, 2016). It is used when the mean of more than two populations is compared. One-way ANOVA is used to measure the effect of one factor amongst its multiple categories, each of which has a wide range of potential values (Kothari, 20). The data was analyzed using SPSS 26 version. An independent sample t-test was used to measure the statistical significance of customers' perceptions of banking E-service quality based on gender and type of bank, and One-way ANOVA was used to measure customers' perceptions of banking E-service quality based on age group, level of education, type of occupation, income level, type of bank, duration of association with the bank, duration of using banking E-service and frequency of using banking E-services etc.

Hypotheses:

The following hypotheses are developed under study to fulfil the research objectives:

H1: Customers' perceptions of banking E-service quality differ across gender

H2: Customers' perceptions of banking E-service quality differ across public and private sector banks

H3: Customers' perceptions of banking E-service quality differ across age groups

H4: Customers' perceptions of banking E-service quality differ across customers' levels of education

H5: Customers' perceptions of banking E-service quality differ across types of occupations

H6: Customers' perceptions of banking E-service quality differ across levels of income

H7: Customers' perceptions of banking E-service quality differ across the duration of customers association with the bank

H8: Customers' perceptions of banking E-service quality differ across the duration of customers' using Banking E-services

H9: Customers' perceptions of banking E-service quality differ across customers' frequency of using banking E-services.

4. Data Analysis

The data analysis section of the paper focuses on the demographic profile and behavioral pattern of the respondents (Table 3), Customers' overall perception of banking E-service Quality (Table 4), and hypotheses testing (Tables 5 and 6).

4.1. Demographic Profile and Behavioral Pattern of the Customers

Table 3. Demographic profile and behavioral pattern of the customers

Measures and Variables		Frequency	Percentage
Gender	Male	237	59.3%
	Female	163	40.7%
Age Group	18-35	245	61.3%
	36-59	151	37.8%
	60 and above	4	1.0%
Level of Education	High School	16	4.0%
	Under Graduate	34	8.5%
	Graduate	163	40.9%
	Post Graduate	136	34.1%
	Professional Degree	50	12.5%
Type of Occupation	Student	95	23.9%
	Employee (Public or Private Sector)	234	58.8%
	Professionals	33	8.3%
	Self-employed/ Business	33	8.3%
	Others	3	0.8%
Monthly Income	0-25000	132	33.0%
	25001-50000	81	20.3%
	50001-75000	97	24.3%
	75001-100000	49	12.3%
	Above 100000	41	10.3%
Type of Bank	Public	216	54.0%
	Private	184	46.0%
Duration of association with the bank	6-12 months	29	7.2%
	1-3 years	69	17.3%
	More than 3 years	302	75.5%
Duration of using banking E-services	6-12 months	33	8.3%
	1-3 years	123	30.8%
	More than 3 years	244	61.0%
Frequency of using banking E-services	Once a day	106	26.5%
	Once a week	189	47.3%
	Once a month	80	20.0%
	Once a quarter	14	3.5%
	Once a month	11	2.8%

Table 3 represents the demographic profile and behavioral pattern of the respondent. Out of a total of 400, respondent's majority of them were males (59.3%), and 40.7% were females. The maximum number of respondents (61.3%) fall into the age bracket of 18-35 years, followed by 37.8% between 36-59 years, whereas only 1% of respondents were 60 and above. This implies that the 18-35 age group is the primary driver of E-banking growth in India, whereas the older generation above 60 is not very tech-savvy and, thus, does not prefer E-channels of banking over conventional branches. The majority of the respondents are graduates (40.9%) or postgraduates (34.1%), followed by those possessing professional degrees (12.5%), undergraduates (8.5%) or have completed high school (4%). A large number of respondents (58.8%) are employees either working in public, or private sector, followed by students (23.9%), self-employed/ business (8.3%), professionals (8.3%) and others (0.8%) were either retired personnel or housewives. Depending on the income (monthly) groups majority of the respondents are from the 0-25000 income bracket (33%), followed by 50001-75000 (24.3%) and 25001-50000 (20.3%).While looking for the customer's association with the type of bank, most of the respondents have been using the banking E-services of public banks (54%), followed by private banks (46%). The majority of the customers (75.5%) have been associated with their respective bank for atleast more than 3 years; in the same manner, the majority of the customers (61.0 %) are using banking E-service for a period of more than 3 years. 17.3 % of the customer have been associated with the banks for about 1-3 years, and a total of 30.8% of the customers have been using banking E-services for almost 1-3 years. Whereas only 7.2% of the respondents have opened a bank account in the last 6-12 months, and a total of 8.3 % of the respondents have started to use banking E-service. It means the customers' adoption of banking E-service is slower than opening a bank account. While looking at the customers' frequency of using banking E-services, a majority of the respondents (47.3%) have been availing of banking E-services once a week, 26.5% of the respondents have been using banking E-services once a day, followed by 20 % once a month and only a tiny portion of the respondents have been using banking E-services once in the quarter (3.50 %) and at least once a year (2.8%).

4.2. Customers' Overall perception of Banking E-service Quality

Customers' overall perception of E-service quality was measured based on the eight majors of E-service quality dimensions: reliability, efficiency, responsiveness, ease of use, security, visual appeal, credibility, and personalization measured on a 5-point likert scale, ranging from strongly disagree to strongly agree. Customers' overall perception of the E-service quality came out to be 4.05, ranging from 2.25 to 5.0, which means overall, the customers find E-service quality as good, and their overall perception individually varies from average to good. Efficiency (4.27) and Ease of Use (4.21) were found to be the most significant dimensions of banking E-service quality, followed by credibility (4.05), security (3.98), reliability (3.98), visual appeal (3.97), Personalization (3.95), and responsiveness (3.93).

Table 4. Descriptive statistics of banking E-service quality

Factor	Mean	S.D	Min	Max
Reliability	3.98	0.63	2.0	5.0
Efficiency	4.27	0.60	1.50	5.0
Responsiveness	3.93	0.68	1.60	5.0
Ease of Use	4.21	0.64	1.60	5.0
Security	3.98	0.71	1.25	5.0
Visual Appeals	3.97	0.70	1.50	5.0
Credibility	4.07	0.69	1.75	5.0
Personalisation	3.95	0.74	1.25	5.0
Overall Perception of E-service Quality	4.05	0.547	2.25	5.0

N=400, Source=SPSS

4.3. Hypothesis Testing

Table 5. Independent Sample t-test for customers' perception of banking E-service quality across Gender and Type of banks

	N	Mean	S.D.	F	Sig Value
Gender					
Male	237	4.09	.54	0.017	0.149
Female	163	4.01	.54		
Type of Bank					
Public	216	4.00	.55	0.072	0.024
Private	184	4.12	.53		

$p<0.05$, n=400

H1 and H2 examine the influence of gender and type of bank on customers' perceptions of banking E-service quality (Table 5). An independent sample t-test was performed to measure whether there is a difference between customers' perception of banking E-Service quality between gender and between the customers of public and private banks. Results of the t-test showed that customers' perceptions of banking E-service quality are not found to be differentiated based on gender (F=0.017, p=0.149), which means customers' perceptions of banking E-service quality do not significantly differ across males (mean=4.09) and females (mean=4.01). Thus, H1 is not supported, which is also supported by Sultan (2017) and Mujinga (2020). At the same time, the mean scores of the private banks' customers (4.12) are higher than the public banks (4.00). It means that customers' perceptions of banking E-service quality are influenced by the type of bank ((F=0.072, p=0.024), and customers of private banks perceive the banking E-service quality slightly better than the customers of the public banks. Thus H2 is supported, which is also supported by Glara & Franco (2017), and Pillai & Balaji (2019). It shows that there is still scope for public banks to improve the quality of E-services to meet their customers' expectations better.

Table 6. One-way ANOVA for customers' perception of banking E-service quality across Age groups, Level of education, Type of occupation, Income level, Duration of association with the bank, duration of using banking E-services and frequency of using banking e-services

	N	Mean	S.D.	F	Tukey
Age					
18-35	245	4.01	.56	2.068	0.128
36-59	151	4.12	.52		
60 and above	4	4.07	.492		
Level of Education					
High School	16	4.03	.49	0.097	0.984
Under Graduate	34	4.00	.55		
Graduate	163	4.06	.54		
Post Graduate	136	4.06	.55		
Professional Degree	50	4.05	.55		
Type of Occupation					
Student	95	3.99	.55	1.813	0.125
Employee (Public or Private Sector)	234	4.11	.53		
Professionals	33	3.90	.42		
Self-employed/ Business	33	3.97	.67		
Others	3	3.98	.22		
Income (Monthly)					
0-25000	132	4.00	.53	2.532	0.040
25001-50000	81	3.96	.61		
50001-75000	97	4.08	.51		
75001-100000	49	4.12	.52		
Above 100000	41	4.25	.49		
Duration of association with the bank					
6-12 months	29	3.84	.508	4.216	0.015
1-3 years	69	3.95	.55		
More than 3 years	302	4.10	.54		
Duration of using banking E-services					
6-12 months	33	3.90	.50	3.148	0.044
1-3 years	123	3.99	.54		
More than 3 years	244	4.10	.55		
Frequency of Banking E-services					
Once a day	106	4.11	.55	4.033	0.003
Once a week	189	4.12	.54		
Once a month	80	3.91	.47		
Once a quarter	14	3.75	.60		
Once a month	11	3.82	.57		

$p<0.05$, n=400

Table 7. Hypotheses

Hypotheses		Sig Val	Decision
H1	Customers' perceptions of banking E-service quality differ across gender	0.149	Not Supported
H2	Customers' perceptions of banking E-service quality differ across public and private sector banks	0.024	Supported
H3	Customers' perceptions of banking E-service quality differ across age groups	0.128	Not Supported
H4	Customers' perceptions of banking E-service quality differ across customers' levels of education	0.984	Not Supported
H5	Customers' perceptions of banking E-service quality differ across types of occupations	0.125	Not Supported
H6	Customers' perceptions of banking E-service quality differ across levels of income	0.040	Supported
H7	Customers' perceptions of banking E-service quality differ across the duration of customers' association with the bank	0.015	Supported
H8	Customers' perceptions of banking E-service quality differ across the duration of customers' using banking E-services	0.044	Supported
H9	Customers' perceptions of banking E-service quality differ across customers' frequency of using banking E-services	0.003	Supported

H3, H4, H5, and H6 examined the influence of age, level of education, type of occupation, and level of income, respectively, on determining customers' perceptions of banking E-service quality. Findings of the One-way ANOVA showed that age ($F(2,397)= 2.068$, $p=0.128$), level of education ($F(4,394)=0.097$, $p=0.984$), and type of occupation ($F(4,393)= 1.813$, $p=0.125$), did not cause any significant difference in shaping customers perceptions about banking E-service quality. Hence, H3, H4, and H5 are not supported. The literature age also supports these findings by Gupta & Bansal, 2011; Mujinga, 2020; and Trang 2022 level of education by Gupta & Bansal, 2011; Sultan, 2017; and Trang, 2022 and the type of occupation by Mujinga 2020 whereas Gupta & Bansal (2011); Lal & Vij et al., (2014); Sultan, (2017); and Trang, (2022) had contradictory views about the type of occupation. Whereas the level of income ($F(4,395)=2.532$, $p=0.040$) came out to be statistically significant parameters influencing customers' perceptions of banking E-services quality. Pair-wise comparison of the mean using Post hoc Tukey analysis showed that only the income group of 25001-50000 (3.96±0.612) and above 100000 (4.25±0.54) is found to be statistically significant to impact the customer's perceptions about banking E-service quality with $p=0.40$ and no other income group was found significantly impact the customer's perceptions about banking E-service Quality (Gupta & Bansal, 2011 and Sultan, 2017).

H7, H8, and H9 examined the influence of duration of association with the bank, duration of using banking E-services and frequency of using banking E-services, respectively, on determining customers' perceptions of banking E-service quality. Findings of the One-way ANOVA showed that customers' Behavioral characteristics, such as duration of association with the bank ($F(2,397)=4.216$, $p=0.015$), duration of using banking E-services ($F=2,397)=3.148$, ($p=0.044$,) and frequency of using banking E-services ($F(4,395)= 4.033$, $p=0.003$) are statistically significant parameters for influencing customers' perceptions of banking E-services quality. Pair-wise comparison of the mean using Post hoc Tukey test analysis further revealed that in the case of the duration of customers association with banks, the group of 6-12 months (3.84 ±0.09) and above 3 years (4.10±0.03) is statistically significant with $p=0.047$ to influence customers perceptions about banking E-service Quality. The comparison of the frequency of using banking E-services showed that the frequency of once in a week (4.12±0.54) and once in a month (3.91±0.47) causes a significant impact on customers' perceptions about banking E-service quality with a $p=0.028$. The other groups were found insignificant to impact the customers' perceptions. The final results of the hypotheses testing are listed in Table 7.

6. Limitations and Future Scope

The study has only undertaken a limited number of demographic and Behavioral characteristics to measure their influence on shaping customers' perception of E-service quality. Other demographic factors such as place of residence (rural/ urban), marital status, and Behavioral factors such as device used (laptop/ mobile phone), type of E-services availed (internet banking/mobile banking/ATM/debit/credit cards) could also be considered to understand the customer's perceptions better. Next, due to time and resource constraints, the study has only taken the sample from the Delhi/NCR. Thus the findings of the study cannot be generalized to the country as a whole. A larger sample size involving respondents from other parts of the country may yield more reliable results. Further, the study has only taken the sample from the public and private banks; with the growing popularity of foreign banks' digital-only banks, payments banks, etc., a comparative study can be done to provide better insight into the customers' perceptions of the particular type of banks.

7. Managerial Implications

The study essentially contributes to the existing knowledge of the quality of Indian banking E-service Quality. It will help the banks make more informed decisions by getting an insight into their customers' perceptions of the E-service offered. Gaining an understanding of the customer's perceptions will help the banks know about the focus areas and organize service delivery in a way that maximizes customer satisfaction. It will also help the banks to more efficiently formulate their marketing and E-services strategy based on the customer's segmentations.

References

[1] Al-jazzazi. A and Sultan. P, "Demographic Differences in Jordanian Bank Service Quality Perceptions," *International Journal of Bank Marketing*, vol.35, no.2, pp.275–297, 2017. Crossref, https://doi.org/10.1108/IJBM-07-2016-0091

[2] Ali A Abou Ali, "Customers Acceptance of Internet Banking: an Empirical Study in Lebanon", *The International Journal of Management*, vol.5, no.2, pp.8-31, 2016.

[3] Vivek Agrawal; Vikas Tripathi and Anand Mohan Agrawal, "Exploring key dimensions of e-service quality: A case of Indian banking industry," *International Journal of Services and Operations Management*, vol. 29, no. 2, pp.252-272, 2018. Crossref, https://doi.org/10.1504/IJSOM.2018.089256

[4] Ahmad, S., Hussain, F. Z., Naheed, K., and Shahid, M. S, "An Empirical Investigation of E-Banking Service Quality Customer Trust and Customer Loyalty of Pakistani Banks," *Sustainable Business and Society in Emerging Economies*, vol.3, no.3, pp.319-326, 2021. Crossref, https://doi.org/10.26710/sbsee.v3i3.1942

[5] Camilleri, S. J., Cortis, J. and Fenech, M. D, "Service Quality and Internet Banking: Perceptions of Maltese Retail Bank Customers," *Bank of Valletta Review*, vol.48, pp.1-17, 2014.

[6] Chawla D. and Sondhi N, "*Research Methodology Concepts and Cases"* Vikas Publishing House Pvt Ltd, 2016.

[7] Olga Einasto, "E-Service Quality Criteria in University Library: a Focus Group Study," *Procedia - Social and Behavioral Sciences*, vol.147, pp.561–566, 2014. Crossref, https://doi.org/10.1016/j.sbspro.2014.07.163

[8] Glara, K. T. and Franco, C. E., "A Comparative Study on Satisfaction of Customers of Public Sector and Private Sector Banks Towards E-Banking in Tirunelveli District," *International Journal of Research -Granthaalayah*, vol.5, no. 5, pp.53–62, 2017. Crossref, https://doi.org/10.29121/granthaalayah.v5.i5(SE).2017.1967

[9] Gupta, K. K. and Bansal, I., "Effect of Demographic Variables on Customer Perceived Internet Banking Service Quality: Empirical Evidence From India," *Paradigm*, vol.15, no.1-2, pp.83-92, 2011. Crossref, https://doi.org/10.1177/0971890720110112

[10] Hahn, S. E. Sparks, B., Wilkins, H., and Jin, X, "E-Service Quality Management of a Hotel Website: a Scale and Implications for Management," *Journal of Hospitality Marketing & Management*, vol.26, no.7, pp.694–716, 2017. Crossref, https://doi.org/10.1080/19368623.2017.1309612

[11] Kaur. B, Kaur. J, Pandey S. K and Joshi. S, "E-Service Quality: Development and Validation of the Scale," *Global Business Review*, 2020. Crossref, https://doi.org/10.1177/0972150920920452

[12] Kaur. M and Sharma. N, "Electronic Service Quality and Customer Satisfaction: a Study of Customer Loyalty with Special Reference to Tourism Industry," *Amity Business Review*, vol.16, no.2, pp.100-114, 2015.

[13] Khan. A, Zubair, D. S. S, Khurram. S and Khan. M. A, "Service quality dimensions and customer satisfaction in online shopping: a customer's perspective, *Journal of Applied Economics and Business Studies*, vol.4, no.1, pp.53-76, 2020. Crossref, https://doi.org/10.34260/jaebs.413

[14] Kothari C. R., *"Research methodology methods and techniques",* New Age International (P) Limited, Publishers, 2004.

[15] Lal. J, Vij. M and Jain. S, "Do Demographics Influence Customer Service Quality Perceptions? a Comparative Study of Indian and Foreign Banks," *Journal of Services Research*, vol.14, no.2, pp.75-105, 2014.

[16] Li. Y, "A Study on E-Service Quality Dimensions for Online Travel Agencies," *MATEC Web of Conferences*, vol. 228, pp.1-5, 2018. Crossref, https://doi.org/10.1051/matecconf/201822805011

[17] Malviya. S, "Exploring Mobile Banking Service Quality Dimensions for Public and Private Sector Banks in Indore District of Madhya Pradesh," *International Journal of Advance Research in Computer Science and Management Studies*, vol.3, no.1, pp.243-252, 2015.

[18] Mansour, Ilham & Eljelly, Abuzar, Abdalla and Abdelgadir, "Consumers' Attitude Towards E-Banking Services in Islamic Banks: the Case of Sudan" *Review of International Business and Strategy*, vol.26, no.2, pp.244–260, 2016. Crossref, https://doi.org/10.1108/RIBS-02-2014-0024

[19] Mujinga. M, "Online Banking Service Quality: a South African Es-Qual Analysis," *Conference on e-Business, e-Services and e-Society*. pp.228-238, 2020. Crossref, https://doi.org/10.1007/978-3-030-44999-5_19

[20] Muzakir, M., Bachri. S, Adam. R. P, and Wahyuningsih. W, "The Analysis of Forming Dimensions of E-Service Quality for Online Travel Services," *International Journal of Data and Network Science*, vol.5, no.3, pp.239–244, 2021. Crossref, http://dx.doi.org/10.5267/j.ijdns.2021.6.010

[21] Noorshella. C. N, Abdullah. A. M, and Nursalihah. A. R, "Examining the Key Factors Affecting E-Service Quality of Small Online Apparel Businesses in Malaysia," *SAGE Open*, vol.5, no. 2, pp.1-10, 2015. Crossref, https://doi.org/10.1177/2158244015576550

[22] Paposa. S. S and Ukinkar. D. V. G, "A Conceptual Review of Service Quality and its Competitive Advantage in Indian Service Sector," *International Journal Of Research Culture Society*, vol.3, no.9, pp.37-40, 2019. Crossref, https://doi.org/10.2017/IJRCS.2456.6683/201909008

[23] Pillai. S. S. U. K and Balaji. M. S, "Core Service Quality in E-Banking in Madurai City- a Comparative Study Among Private Sector and Public Sector Banks," *Shanlax International Journal of Managemen*t, vol.7, no.2, pp.77–83, 2019. Crossref, https://doi.org/10.34293/management.v7i2.761

[24] Qureshi. M. N. Z and Bhatt. J, "An Assessment Of Service Quality, Customer Satisfaction and Customer Loyalty in Life Insurance Corporation Of India with Special Reference to Srinagar District of Jammu and Kashmir," *Pacific Business Review International*, vol.7, no.12, pp.60-70, 2015.

[25] Raman, M., "Information Technology in Malaysia: E-Service Quality and Uptake of Internet Banking," *Journal of Internet Banking and Commerce*, vol.13, pp.1-18, 2008.

[26] Ephrem H. Redda, Jhalukpreya Surujlal and Verona Leendertz, "Internet Banking Service Quality in South Africa: a Qualitative Analysis of Consumer Perceptions," *International Journal of Trade and Global Markets*, vol.10, no.1, pp.67-74, 2017. Crossref, https://doi.org/10.1504/IJTGM.2017.082373

[27] Rezapour. M and M. H. Peykani, "Compare Customer Satisfaction with the Quality of E-Banking Services Among State, Private and Altered Banks in Isfahan," *International Review of Management and Marketing*, vol.7, no.2, pp.237-243, 2017.

[28] Rita. P, Oliveira. T and Farisa. A, "The Impact of E-Service Quality and Customer Satisfaction on Customer Behavior in Online Shopping," *Heliyon*, vol.5, no.10, pp. e02690, 2019. Crossref, https://doi.org/10.1016/j.heliyon.2019.e02690

[29] Rao. K. R. M and Rao. P. S, "Consumers' Perception on Service Quality of Public Sector Banks," *International Journal of Innovative Research in Technology*, vol.5, no.4, pp.10-17, 2018.

[30] Salome. I. O, Ayotunde. O. A and Samuel. O. O, "From Service Quality to E-Service Quality: Measurement, Dimensions and Model," *Journal of Management Information and Decision Sciences*, vol.25, no.1, pp.1-15, 2022.

[31] Jessica Santos, "E-Service Quality: a Model of Virtual Service Quality Dimensions," *Managing Service Quality: An International Journal*, vol.13, no. 3, pp.233-246, 2003. Crossref, https://doi.org/10.1108/09604520310476490

[32] Sardana. S and Bajpai. V. N, "E-Banking Service Quality and Customer Satisfaction: an Exploratory Study On India," *International Journal of Services and Operation Management*, vol.35, no.2, pp.223-247, 2020. Crossref, https://doi.org/10.1504/IJSOM.2020.105272

[33] Shanmugam. M, Wang. Y. Y, Bugshan. H and Hajli. N, "Understanding Customer Perceptions of Internet Banking: the Case of the UK," *Journal of Enterprise Information Management*, vol.28, no.5, pp.622-636, 2015. Crossref, https://doi.org/10.1108/JEIM-08-2014-0081

[34] Shayganmehr. M and Montazer. G. A, "An Extended Model for Assessing E-Services of Iranian Universities Websites Using Mixed MCDM Method," *Education and Information Technologies*, vol. 25, no.5, pp.3723–3757, 2020. Crossref, https://doi.org/10.1007/s10639-020-10139-x

[35] Singh. S, "Measuring E-Service Quality and Customer Satisfaction with Internet Banking in India," *Theoretical Economics Letters*, vol.9, no.2, pp.308–326, 2019. Crossref, https://doi.org/10.4236/tel.2019.92023

[36] Trang. N. M, "The Influence of Personal Characteristics on Customers' Perception of E-Banking Service Quality and Cost-Effectiveness in Vietnam," *Open Journal of Social Sciences*, vol.10, pp.377-391, 2022. Crossref, https://doi.org/10.4236/jss.2022.101029

[37] Veloso. C. M, Magueta. D, Sousa. B. B and Carvalho. J. L, "The Role of E-Service Quality in Online Customer Loyalty in Retail Industry," *Journal Education Excellence and Innovation Management*, pp.8902-8914, 2020.