Examination of Service Quality of Digital Payments among Working Professionals

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Abstract: Purpose: The major objective of this research study was to identify the different modes of digital payments which are popular among the working professionals. Further, there is an examination of the chosen variables of service quality related to digital payments in terms of their impact on the customer satisfaction.

Methodology: This research has a conclusive research design. The independent variables were security, responsiveness, reliability and ease of use of digital payments done by working professionals in Delhi-NCR. Sample size taken was 373 and sampling technique used was stratified sampling. Online questionnaire distribution was done for data collection. The instrument was reliable and valid. Thematic analysis and multiple regression were applied as research techniques.

Limitations: Due to Covid-19 and its regulations, opportunity of physical meeting or interactions with the respondents was mitigated. Resource limitation existed as an unavoidable element.

Implications: This study has got practical as well as managerial implications. This study would provide valuable information to the marketers to devise the payment facility design by adhering to the relevant elements that can enhance customer satisfaction. It would even reflect upon the status of digital payments being adopted as a tool of financial payments by the working class and how it can shape the future market. It will add to the current set of literature as a useful study with immense future scope.

Keywords: Digital payments, service quality, working professionals, security, Covid-19.

1. Introduction

RBI (2019) stated about heavy increment of cashless transaction across India. Given below is figure 1 which reflects the global scenario demand and supply factors of digital payments. The World Payments Report, 2018 showed that UK, Singapore, Australia and Sweden were regarded as the leaders in terms of both regulatory supply-side push and demand-side pull. With respect to India, the government and the Reserve Bank had been taking various measures which had supported in increasing the usage as well as the penetration of digital payments. In fact, the initiatives like UPI, PPI, and significant expansion in access to RuPay debit card through the Jan-Dhan Accounts as well as the Aadhar-based direct benefit transfers (DBTs) had even helped significantly in popularizing and inculcating the habit of digital payments among the masses.

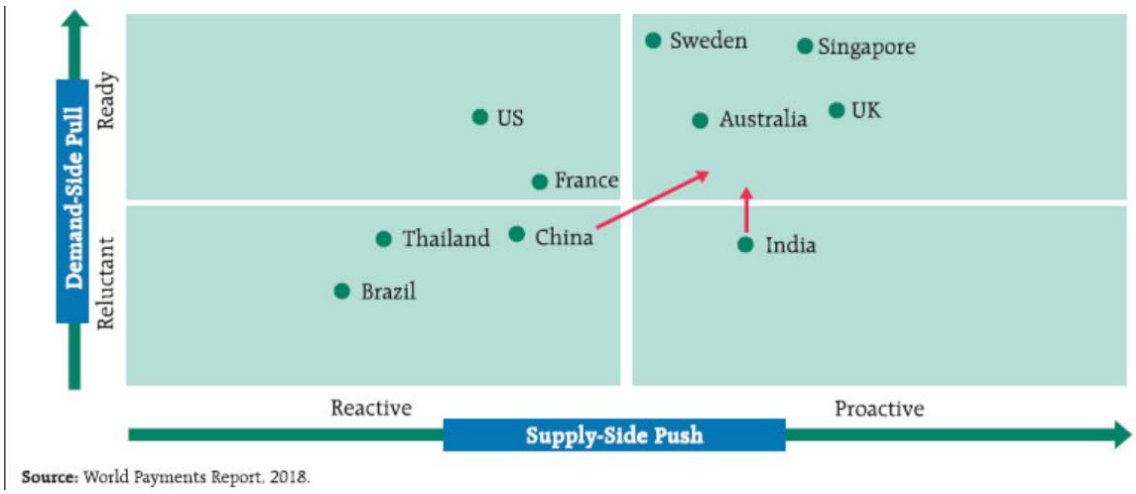
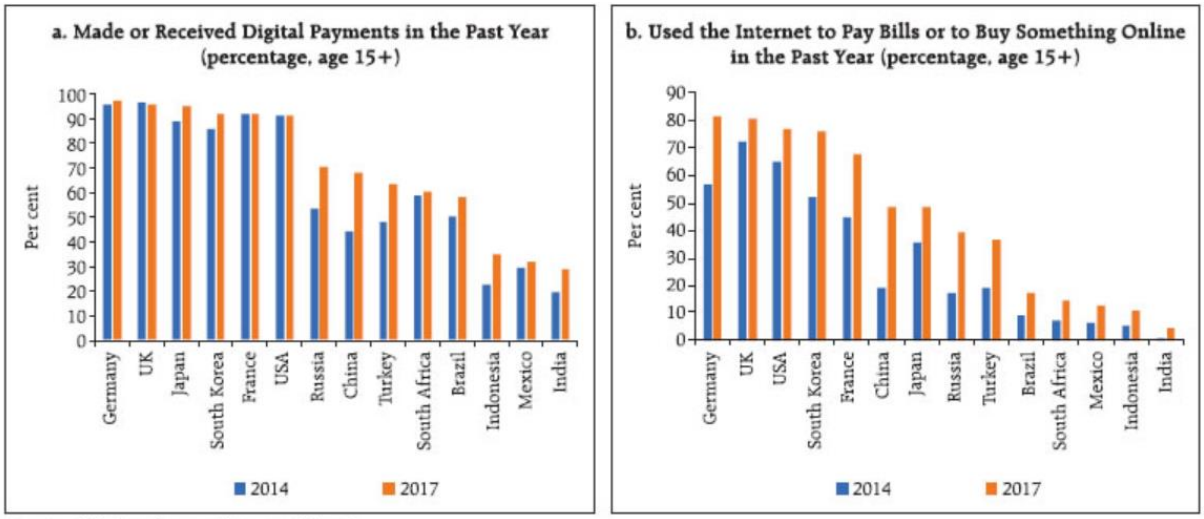


Figure 1: Demand and supply side factors affecting digital payments (source: World Payments Report, 2018)

It was even documented through the research agency of World Bank that there has been an upsurge in the Indian context in terms of the digital payments that were made or received over a period of time. This is even reflected in figure 2 which shows this increase in usage of internet banking and digital payments from the year 2014 to the year 2017. It implies that the future of digital payment in India had started setting up its path during this period and has been continuing since then.

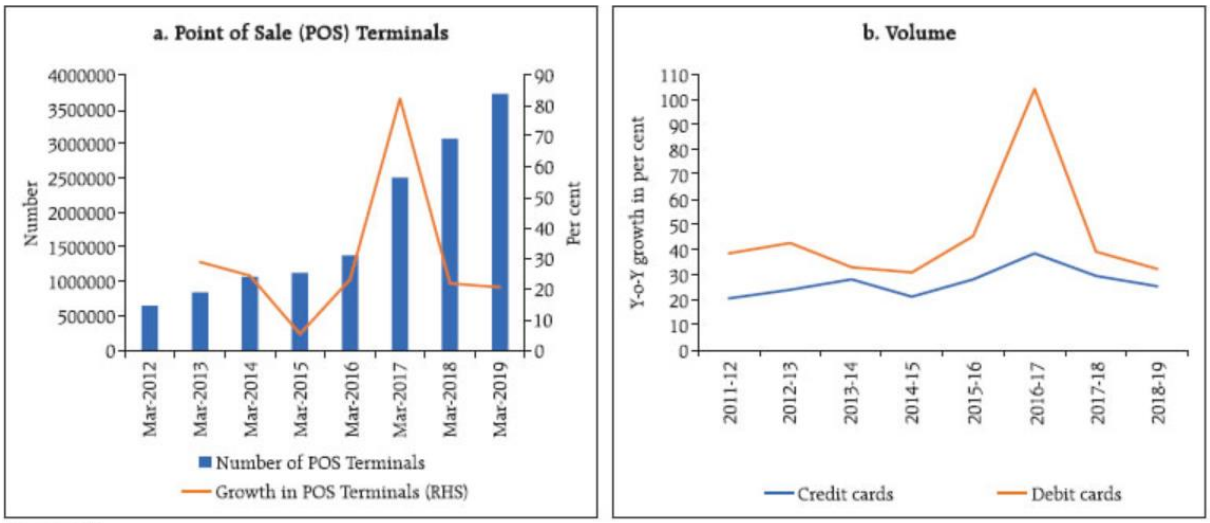


Source: Global Findex Database, World Bank.

Figure 2: Cross- country spread of digital payments (source: Global Findex Database, WB)

The recent initiative of the Indian government in the form of the campaign – Digital India (Shamim, 2016) has provided wings to the facility of digital payments. There are now various means of digital payments available to the people and they are being massively supported by the government and the private sector of the economy (Sahayaselvi, S., 2017). During the time of pandemic, digital payments served as a supporter and means for economic sustenance (PwC Report, May 2020). This period witnessed a huge proportion of the population adopting the digital payments as a means of making cashless payments. Apart from using debit and credit cards, people massively used services like paytm, RTGS, NEFT, Adhar-card linked payment facilities along with other options available (Bhavya, R. & Sambhav, S., 2020). Mobile banking was already being practiced by a number of working professionals (Sarwar, M. & Soomro, T.R., 2013) and it gained further upsurge during the pandemic. This habit further got fueled due to the prevailing norms under the lockdown phases (World Health Organization Report, 2019).

It can even be documented from figure 3, the percentage growth of volume of debit and credit cards usage has been reflected at the POS terminals in India. The number of POS terminals and usage of debit and credit cards were found to have increased significantly during the year 2016-17 on account of demonetization. Though, the growth in the usage of debit and credit cards at POS terminals declined in the post-demonetization period, it nevertheless remained at elevated levels.



Source: RBI.

Figure 3: Usage of debit and credit cards at POS terminals (source: RBI portal)

Given below in figure 4 is the journey of India's evolution into a digital economy facilitating different modes of digital payments:

FIRST PHASE	SECOND PHASE	THIRD PHASE
1984: Introduction of Magnetic Ink Character Recognition (MICR) technology	**2001:** Internet banking	**2010:** Immediate Payment Service (IMPS)
1987: First ATM installed in Kolkata	**2004:** National Financial Switch (NFS)	**2012:** Adoption of ISO 20022 messaging standard in the Next Generation RTGS (NG-RTGS) system
1988: Computerized settlement operations at clearing houses of RBI	**2004–2005:** Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT)	**2014:** Jan Dhan Yojana, National Unified USSD Platform, RuPay Card, Bharat Bill Payment System (BBPS)
1998–2000: Core banking software	**2007 :** Mobile banking	**2016:** Unified Payment Interface (UPI), payment banks, mobile wallets,
	2008: Cheque truncation systems	**2017:** Bharat Interface for Money (BHIM) app

**Source: ASSOCHAM report 2017*

Figure 4: Phases of India's infrastructure to a digital economy (source: https://eprawisdom.com/jpanel/upload/articles/518pm31.Zahoor%20Ahmad%20Shah.pdf)

Thus, it was clear that digital payments through various means had become an integral payment mode in Indian scenario. Therefore, this study emerged to be very relevant, especially, in the current environment that had witnessed a paradigm shift in payments from cash to online mode. Data from the National Payments Corporation of India (NPCI) revealed that digital payments are back at pre-Covid-19 levels as people continue to prefer contactless payments. Thus, the current study is justified to be conducted in the present scenario (Surabhi, 2020).

2. Review of Literature

Statista (2021) presented results of usage of digital payments in India as on April 2020. The gap observed was the survey was conducted taking into consideration people with varying demographics and not specifically the working professionals. Also, it lacked hypothesis testing and analysis was majorly descriptive in nature. Vally, K.S., et al. (2018) conducted a research s to study the positive impact that Digitization of payment system. The paper focused on the analysis of the adoption level of these digital payment systems by customers. It was conducted in Hyderabad on a sample of 183 respondents. The identified gaps were that it didn't consider responses of working professionals from Delhi-NCR and the sample size was also lesser than what was given in the current research study.

Fransiska, A.M. & Sahayaselvi, S. (2017) conducted a research study aimed at examining the different types of means adopted by people for making digital payments. This research study was based on secondary data and majorly covered the features of different options of digital payments briefly like mobile banking, card usage, NEFT, RTGS and other options. This study had a major research gap of not consisting any empirical assessment and it didn't pertain to recent findings related to Covid-19 situation in India. Sagayarani, D. (2017) conducted a research study to find out whether India going cashless had helped its citizens and whether India will turn out to be a successful cashless society. The study revealed that it was important to strengthen Internet Security from protection against the online fraud. The research gaps existed in the form of sample not being representative and it didn't show any statistical analysis. The current research study has filled the research gaps identified in the mentioned research studies.

Shah, Z.A. (2017) conducted a research study on digital payment system with the objectives to assess the infrastructure available in India to support the digital payment system, to analyze the different digital modes of payment system available in India and to investigate the problems and prospects of cashless economy and the challenges in making India a cashless economy. It was purely based on secondary data and explained the entire journey of India towards a cashless economy. The research gap was that it was not based on primary data and didn't measure customer satisfaction with the digital payments facility.

From the review of literature, several research gaps were highlighted that have been filled by the current research. The major gaps existed in the form of less primary data, inappropriate sampling, non-representative sample, lack of descriptive and inferential analysis, less amount of hypotheses testing done and fewer studies available on customer satisfaction during the pandemic in India with respect to digital payments.

3. Research methodology

This research study has a conclusive research design. It has descriptive research design as it aims at providing descriptive details from different data sources about the different kinds of digital payment modes used by the consumers, which are working professionals in Delhi-NCR in this study. Further, it is causal because it has examined the relationship between the independent variables; security, responsiveness, reliability, ease of use and

the dependent variable; customer satisfaction. The sample size taken for this study was 400 including working professionals from both genders. Stratified sampling was used after identifying the possible domains in which working professionals could be found and approached. The different strata created were those of working professionals in corporate organizations, higher education institutions and health clinics located in Delhi-NCR. As per the approachability of the researcher and availability of email ids on different sites, online questionnaires were sent to the working professionals on those official email ids. Around 450 questionnaires were mailed and responses were received from 373 respondents. The questionnaire aimed at collecting data about the respondents' demographics along with their responses on the identified components of service quality. They were designed on a 5-point Likert's scale with responses categorized as 1- strongly disagree, 2- rather agree, 3-neutral, 4-rather disagree and 5- strongly disagree. Thematic analysis was done for examining the different modes of digital payments utilized by the working professionals. Multiple regression was used for examining the impact of the given variables on the customer satisfaction in this study. Hypothesis tested for the present research has been given below.

$H_0$1: Security does not show any impact on customer satisfaction regarding digital payments.

$H_0$2: Responsiveness does not show any impact on customer satisfaction regarding digital payments.

$H_0$3: Reliability does not show any impact on customer satisfaction regarding digital payments.

$H_0$4: Ease of use does not show any impact on customer satisfaction regarding digital payments.

4. Data analysis and interpretation

Examination of Impact of Variables of Service Quality on Customer satisfaction (SC_SCORE):

Table 1 given below reflects the descriptive analysis of the dependent variable (SC_SCORE) which is customer satisfaction with a mean score of 69.92. The highest mean score for the variables of service quality was documented by responsiveness (20.36) followed by ease of use (16.63), reliability (16.47) and then, security (16.45). There was not a major difference between the mean score of all the independent variables.

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
SC_SCORE	69.92	18.749	373
SSCORE	16.4558	4.58918	373
RESSCORE	20.3566	5.75708	373
RSCORE	16.4718	4.69069	373
EUSCORE	16.6381	4.52417	373

Referring to the inferential analysis, table 2 given below represented the correlation matrix. It showed that the correlation between security (SSCORE) and customer satisfaction was significant and positive ($r=.954$, $p<.05$). Similarly, the association between responsiveness (RESSCORE) and customer satisfaction was positive and statistically significant with $r=.967$ and $p<.05$. The correlation between reliability (RSCORE) and customer satisfaction was also positive and significant with $r=.952$, $p<.05$. Even, the association between ease of use (EUSCORE) and customer satisfaction was statistically significant as $r=.957$ and $p<.05$.

Table 2: Correlations

		SC_SCORE	SSCORE	RESSCORE	RSCORE	EUSCORE
Pearson Correlation	SC_SCORE	1.000	.954	.967	.952	.957
	SSCORE	.954	1.000	.906	.881	.873
	RESSCORE	.967	.906	1.000	.878	.904
	RSCORE	.952	.881	.878	1.000	.894
	EUSCORE	.957	.873	.904	.894	1.000
Sig. (1-tailed)	SC_SCORE	.	.000	.000	.000	.000
	SSCORE	.000	.	.000	.000	.000
	RESSCORE	.000	.000	.	.000	.000
	RSCORE	.000	.000	.000	.	.000
	EUSCORE	.000	.000	.000	.000	.

N		SC_SCORE	373	373	373	373	373
		SSCORE	373	373	373	373	373
		RESSCORE	373	373	373	373	373
		RSCORE	373	373	373	373	373
		EUSCORE	373	373	373	373	373

For examining the impact of the independent variables on customer satisfaction, enter method was used (table 3). The model was found to be fit as documented in table 4 with $p<.05$ and Durbin-Watson greater than the R-square value and as revealed from table 5, $F= 3074.224_{(368,4)}$, $p<.05$. As evident from table 6, the following variables showed a statistically significant impact on customer satisfaction:

Variables	Beta	p
Security	.863	<.05
Responsiveness	.897	<.05
Reliability	.868	<.05
Ease of use	.995	<.05

From the above details, the following regression equation was obtained:

Customer satisfaction= .863 (security)+.897(responsiveness)+.868(reliability)+.995(ease of use)

It is clear that the variable of security impacts the customer satisfaction at 5% level of significance as $p<.05$. Hence, H_01 is not accepted. Also, from the regression equation, it can be seen that with one unit change in security, the customer satisfaction increases by .863 units. The variable of responsiveness impacts the customer satisfaction at 5% level of significance as $p<.05$. Hence, H_02 is not accepted. Also, from the regression equation, it can be seen that with one unit change in responsiveness, the customer satisfaction increases by .897 units. It is also clear that the variable of reliability impacts the customer satisfaction at 5% level of significance as $p<.05$. Hence, H_03 is not accepted. Also, from the regression equation, it can be seen that with one unit change in reliability, the customer satisfaction increases by .868 units. Also, ease of use impacts the customer satisfaction at 5% level of significance as $p<.05$. Hence, H_04 is not accepted. Also, from the regression equation, it can be seen that with one unit change in ease of use, the customer satisfaction increases by .995 units.

Table 3: Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	EUSCORE, SSCORE, RSCORE, RESSCORE[b]	.	Enter

a. Dependent Variable: SC_SCORE
b. All requested variables entered.

Table 4: Model summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Sig. F Change	Durbin-Watson
1	.869[a]	.890	.854	.103	0.865	.001	1.031

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130760.510	4	32690.128	3074.224	.001[b]
	Residual	3.913	368	.011		
	Total	130764.424	372			

a. Dependent Variable: SC_SCORE
b. Predictors: (Constant), EUSCORE, SSCORE, RSCORE, RESSCORE

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.039	.021		-1.890	.060

	SSCORE	.863	.013	.246	328.717	.001
	RESSCORE	.897	.014	.307	377.039	.001
	RSCORE	.868	.023	.251	347.013	.001
	EUSCORE	.995	.003	.240	311.742	.001

a. Dependent Variable: SC_SCORE

5. Findings and Conclusion

The research study revealed the different kinds of modes used for digital payments were banking cards, digital wallets, Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD), Immediate Payment Service (IMPS), Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT), Aadhar Enabled Payment System (AEPS) and mobile banking. All these modes were being widely used by the working professionals dependent upon the respective features and suitability of the situation. From the results derived from hypothesis testing, it has been documented that security has a statistically significant impact on the satisfaction of working professionals using digital payments. Hence, $H_0$1 was not accepted. Similarly, responsiveness has a statistically significant impact on the satisfaction of working professionals using digital payments. Hence, $H_0$2 was not accepted. Even, reliability has a statistically significant impact on the satisfaction of working professionals using digital payments. Hence, $H_0$3 was not accepted. Even, ease of use has a statistically significant impact on the satisfaction of working professionals using digital payments. Hence, $H_0$4 was not accepted. Thus, it can be concluded that the chosen variables of service quality had a significant impact on satisfaction of respondents with respect to digital payments.

It can be concluded from this study that digital payments have been adopted as a major means of payments these days due the various benefits it provides ranging from escaping physical visits to the banks and getting financial transactions done through some clicks on mobile phones. It was even concluded that the variables of service quality considered in the study (security, responsiveness, reliability and ease of use) held a statistically significant impact on the satisfaction level of the respondents from the digital payment facility provided to them.

6. Recommendations and future scope

The revelations from the current study had clearly showed that digital payments are being used by the respondents extensively. Adding to that, service quality variables were found to be effective in impacting their satisfaction which is very important for retaining them to continue making digital payments. The target audience involved for digital payments is very huge and the general public perception about the operation could be very influential in affecting the potential customers to get converted into actual customers. Thus, an important recommendation for the banking sector and software firms enabling the digital payment facility should actually invest in R&D to ensure that the process is extremely secure. Recent up-dations and adoption of latest technology aiming at enhancing the user experience should be a major focus of these organizations. Also, websites or online links enabling digital payments should be user-friendly or easy to use through a user-friendly website interface. The sites should be such that they function efficiently irrespective of the device being used; whether it is a desktop, a laptop or a mobile. This is also important as mobile banking is one of the prime modes of digital payments these days. Further, efforts could be initiated in the direction of having reliable operations through digital payment services. Responsiveness and grievance redressal should be treated with prime significance when providing the service of digital payments to the users.

This study has massive future scope as our country is moving towards digitalization. In fact, the sector which is most robust in India is the Information Technology and Information Technology enables Services (IT & ITes). This study has the scope to be extended to other demographics in terms of varying professions, educational backgrounds, location and other factors. Also, with the advancement in technology, newer ways of digital payments might emerge in the future which could become a subject of study for the researchers and industry experts. A comparative analysis of the success rate of the different modes of online payments could be executed and the analysis about their strengths and limitations could be documented. With the kind of move that has been made towards online mode of payments, it is expected to become a sustainable future trend. Thus, this domain of study would become more intense and relevant in terms of its future outcomes and would stay an interesting subject of study for researchers and organizational management.

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