

# E-Banking Services: Impact of Demonetization on Satisfaction of Customers



Deepa Kotasthan, Ritika Sinha

**Abstract**— *The paper aims to determine the effect of demonetisation on the e-banking services and the consequent impact on the satisfaction of the customers. The study utilised data from 252 customers of private and public banks in India through questionnaires. It was found that the usage of e-banking services has increased after demonetisation. Further, it was observed that the age of the customers was the main determinant of the preference as well as actual usage of the e-services of the banks. Also, the educational qualification of the customers impacted the usage of the services both prior and post-demonetisation. Further, a significant relationship was established between the usage of e-services and customer satisfaction. It was established that the trust in using of the services increased after demonetisation.*

## I. INTRODUCTION

Banking sector has made huge progress towards the adoption of information and communication technology (ICT) - based technologies due to globalisation, increased competition, changing customer needs and the shift towards a knowledge-based economy (Clonia & Asht, 2016). E-banking is a generic name for the availing of banking services over the internet without visiting a physical branch (Keivani, Jouzbarkand, Khodadadi & Sourkouhi, 2012). It can, specifically, be defined as the process providing services as well as information to the customers by the banks by means of technologically advanced methods such as personal computer or other smart devices (Daniel, 1999).

Three levels of e-banking services have been identified. The first level of the services includes the basic service of information regarding the various products and services of the banks. The second level specifies the non-financial transactions such as application submissions and checking the account balances. Financial transactions of deposits, transfers and redeem securities are included in the third level of e-services through its transaction websites (Driga & Isac, 2014; Hyde, 2015). Banks have to make the usage of its e-services accessible and simple for the maximum satisfaction of its customers (Kaur & Kiran, 2015). At the same time, the quality and uniqueness of the services provided must also not

decrease (Qadri, 2015). The major advantage of e-banking is that the transactions could be carried out at any time suitable to the customers (Singhal, 2017).

One of the major aims of demonetisation in India was to make the economy cashless which infers not the complete absence of cash but the increased cashless transactions. This was enacted to improve the growth of the economy as well (Pradeep, 2017). Demonetisation had led to the increase in the usage of e-banking services of the financial institutions. The commonplace presence of smart phones and a wide range of mobile applications for financial transactions have extensively aided the spread of e-banking services (Singhal, 2017). On one hand, an increase in the online transactions has been witnessed (Kumar, 2017); however, on the other hand, the digital transactions have not penetrated every household in the country which shows the setback of the outreach of the e-services of the banks (Gaur & Padiya, 2017). The present paper studies the impact of demonetisation on the e-banking services and the satisfaction of the customers in those services.

## II. REVIEW OF LITERATURE

A review of the existing literature on the e-banking services aided in the understanding of the present condition of the e-services of banks and also acknowledges the various dimensions of the satisfaction of customers in the online services of the banks.

### 2.1 Need for E-banking services

Witman and Poust (2008) stated that the increase in the e-services of banks was due to the diminution in the production costs and usage of minimum resources. It was also found that not only e-banking added value to the banks (Murphy et al., 2007) but also increased the reputation of the banks and helped in customer retention. Ibrahim and Bokkasam (2006) elucidated that banks that follow the process of continuous improvement in their e-services show higher growth compared to banks that do not improve its services.

### 2.2 Customers and E-banking services

Studies on the frequently used e-services of banks showed that online transfers of funds and complaint filing were the highly used services (Agarwal, Rastogi & Mehrotra, 2009).

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Also, the banks started in the new age were more effective in the implementation of the latest e-services than older banks (Kumar & Vadivel, 2016) and the awareness of the customers regarding the services of these new-age banks was also found to be high (Tandon, Kiran & Sah, 2016). In relation to the above result, it was also found that the younger customers were more aware of the e-services than aged customers (Shende & Khursange, 2014).

The adoption of latest technology in their services provides banks with an advantage of customer satisfaction (Zhu & Nakata, 2007). The comfort of the customers in utilising the services also helps in their satisfaction and retention as well as increase the growth of the banks (Lal, 2012). The quality of the e-banking services provided was considered as important determinant of the satisfaction of customers in the services (Bedi, 2010; Ming, 2003; Nadiri, Kandampully & Hussain, 2009). It was recommended by studies that the banks should consider the requirements of the customers while formulating a new service so that the maximum satisfaction from the customers can be reached (Tao, 2014).

### 2.3 Challenges

Studies showed the relatively advanced technology of e-banking services caused discomfort to adults aged above 45 years due to lack prior exposure and guidance to the technology (Agarwal et al., 2009; Elavarasi & Surulivel, 2016) whereas the younger generation of bank customers were the most frequent users of the e-banking facilities (Chandra & Bais, 2015; Mahfooz & Mohammad, 2013). The security and privacy of data were the other major issues concerned with the usage of e-banking services (Dixit & Datta, 2010). Another setback to banks was that the customers were not aware of all the services provided by the banks through their digital services (Iswarya, 2015; Pipaliya, 2012; Sumedha, Urvashi & Rajni, 2012).

### 2.4 Demonetisation and e-banking services

Studies on the effects of demonetisation in India depicted a common trend of increase in cashless transactions. High rates of usage of online money transfer applications were reported after demonetisation came into place. This also led to decreased costs of transactions, secured transfer and less time for transfer of funds (Balaji & Balaji, 2017). The immediate effect of demonetisation was observed in the increase in the cashless transactions and information technology influenced services. However, it was also found that the technology of the banks were not up to the standards to meet the demands of the customers post-demonetisation (Nagdev, Kumar, Rajesh

& Kumar, 2018).

## III. METHODOLOGY

The study utilised a combination of exploratory and descriptive research design to analyse the research problem as the previous studies related to satisfaction of customers were scarce and also to determine the suitable variables for the study (Javadi, 2012). The primary data were collected from 252 customers of private and public banks in the city of Bangalore in India through questionnaires. The sample population was selected through purposive sampling of customers using e-banking services. Secondary data were collected from related articles, journals and books. A pilot study was done prior to the actual data collection and analysis. The reliability and validity tests confirmed the fit of the questionnaire for the study.

## IV. RESULTS

Crosstab and MANOVA was utilised to analyse the data obtained from the sample population. On analysing the preference of using cashless transactions, customers in the age group of 25 to 45 were keen to utilise the e-service with 68% of customers of maximum age 25 years preferring to use it most of the times and 55.7% of customers in the age group 25 to 35 years preferring to use it occasionally. Further, professional customers (57.4%) of both public sector banks preferred to utilise cashless transactions sometimes (62.6%). However, there was no difference in the preference of cashless transactions between both the genders. In addition, a significant relationship between the educational qualification and the actual usage of the cashless transactions was found with 54% graduates were utilising the services prior as well as post-demonetisation. In addition, the frequency of usage of e-banking services has increased among the graduate customers (56.6%) after demonetisation (50%). Moreover, customers were comfortable using mobile applications to access e-services of the banks (81.8%). These are depicted in Tables 1, 2, 3 and 4. This result is in accordance with the study results of Agarwal et al., 2009; Elavarasi & Surulivel, 2016 and Shende & Khursange, 2014, according to which the utilisation of e-services depended on the age and educational qualification of the customers and the preferred method of e-services utilisation (Driga & Isac, 2014; Hyde, 2015; Tao, 2014).

**Table 1 Association of Preference to do cashless transactions with demographic factors**

Demographics	Categories	Preference to do cashless transactions					Chi Square	Sig.
		N	Yes, most of the times	Yes, sometimes	No			
Gender	Male	169	78 (46.2)	91 (53.8)	0 (0.00)	7.213	0.125	
	Female	82	35 (42.7)	44 (53.7)	3 (3.7)			

Age	< 25	25	17 (68.0)	6 (24.0)	2 (8.0)	22.686	0.004
	25 - 35	88	38 (43.2)	49 (55.7)	1 (1.1)		
	36 - 45	86	41 (47.7)	45 (52.3)	0 (0.0)		
	46 - 55	34	11 (32.4)	23 (67.6)	0 (0.0)		
	> 55	19	6 (31.6)	13 (68.4)	0 (0.0)		
Educational Qualification	Professional	54	31 (57.4)	23 (42.6)	0 (0.0)	21.676	0.001
	Graduate	113	54 (47.8)	58 (51.3)	1 (0.9)		
	Postgraduate	63	27 (42.9)	34 (54.0)	2 (3.2)		
	Others	22	1 (4.5)	21 (95.5)	0 (0.0)		
Type of bank	Private Sector	52	38 (73.1)	13 (25.0)	1 (1.9)	25.878	0.000
	Public Sector	195	71 (36.4)	122 (62.6)	2 (1.0)		
	Private and Public Sectors	5	4 (80.0)	1 (20.0)	0 (0.0)		
	Total	252	113 (44.8)	136 (54.0)	3 (1.2)		

Table 2 Association of usage of e-banking services with demographic factors

Demographics	Categories	Usage of e-banking services				Chi Square	Sig.
		N	Using e-banking services after demonetization	Continuing to use e-banking services	Not using e-banking services		
Gender	Male	169	20 (11.8)	113 (66.9)	36 (21.3)	6.681	0.154
	Female	82	6 (7.3)	47 (57.3)	29 (35.4)		
	Others	1	0 (0.00)	1 (100)	0 (0.0)		
Age	< 25	25	2 (8)	11 (44.0)	12 (48.0)	11.326	0.184
	25 - 35	88	12 (13.6)	55 (62.5)	21 (23.9)		
	36 - 45	86	6 (7.0)	63 (73.3)	17 (19.8)		
	46 - 55	34	4 (11.8)	21 (61.8)	9 (26.5)		
	> 55	19	2 (10.5)	11 (57.9)	6 (31.6)		
Educational Qualification	Professional	54	0 (0.0)	47 (87.0)	7 (13.0)	43.407	0.000
	Graduate	113	22 (19.5)	61 (54.0)	30 (26.5)		
	Postgraduate	63	4 (6.3)	45 (71.4)	14 (22.2)		
	Others	22	0 (0.0)	8 (36.4)	14 (63.6)		
Type of bank	Private Sector	52	3 (5.8)	40 (76.9)	9 (17.3)	7.108	0.130
	Public Sector	195	22 (11.3)	117 (60.0)	56 (28.7)		
	Private and Public Sectors	5	1 (20.0)	4 (80.0)	0 (0.0)		
	Total	252	26 (10.3)	161 (63.9)	65 (25.8)		

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**Table 3. Association of Frequency of using e-banking services after demonetization with demographic factors**

Demographics	Categories	Frequency of using e-banking services after demonetization				Chi Square	Sig.
		N	Increased	Unchanged	Decreases		
Gender	Male	169	85 (50.3)	82 (48.5)	2 (1.2)	3.546	0.471
	Female	82	48 (58.5)	32 (39.0)	2 (2.4)		
Age	< 25	25	17 (68.0)	5 (20.0)	3 (12.0)	27.951	0.000
	25 - 35	88	44 (50.0)	43 (48.9)	1 (1.1)		
	36 - 45	86	40 (46.5)	46 (53.5)	0 (0.0)		
	46 - 55	34	22 (64.7)	12 (35.3)	0 (0.0)		
	> 55	19	10 (52.6)	9 (47.4)	0 (0.0)		
Educational Qualification	Professional	54	22 (40.7)	32 (59.3)	0 (0.0)	15.731	0.015
	Graduate	113	64 (56.6)	45 (39.8)	4 (3.5)		
	Postgraduate	63	30 (47.6)	33 (52.4)	0 (0.0)		
	Others	22	17 (77.3)	5 (22.7)	0 (0.0)		
Type of bank	Private Sector	52	27 (51.9)	22 (42.3)	3 (5.8)	7.490	0.112
	Public Sector	195	103 (52.8)	91 (46.7)	1 (0.5)		
	Private and Public Sectors	5	3	2	0		
	Total	252	133 (52.8)	115 (45.6)	4 (1.6)		

**Table 4. Association of technology of e-banking services used with demographic factors**

Demographics	Categories	Technology e-banking services used						Chi Square	Sig.
		N	Bheem app	Mobile app	Mobile wallets	USSD technology	Nil		
Gender	Male	169	3 (1.8)	116 (68.6)	39 (23.1)	3 (1.8)	8 (4.7)	6.708	0.568
	Female	82	0 (0.0)	56 (68.3)	17 (20.7)	0 (0.0)	9 (11.0)		
Age	< 25	25	1 (4.0)	18 (72.0)	3 (12.0)	1 (4.0)	2 (8.0)	29.344	0.022
	25 - 35	88	1 (1.1)	72 (81.8)	12 (13.6)	0 (0.0)	3 (3.4)		
	36 - 45	86	1 (1.2)	52 (60.5)	26 (30.2)	0 (0.0)	7 (8.1)		
	46 - 55	34	0 (0.0)	22 (64.7)	7 (20.6)	2 (5.9)	3 (8.8)		
	> 55	19	0 (0.0)	9 (47.4)	8 (42.1)	0 (0.0)	2 (10.5)		
Educational Qualification	Professional	54	1 (1.9)	39 (72.2)	8 (14.8)	0 (0.0)	6 (11.1)	15.267	0.227
	Graduate	113	2 (1.8)	78 (69.0)	28 (24.8)	1 (0.9)	4 (3.5)		
	Postgraduate	63	0 (0.0)	42 (66.7)	12 (19.0)	2 (3.2)	7 (11.1)		
	Others	22	0 (0.0)	14 (63.6)	8 (36.4)	0 (0.0)	0 (0.0)		
Type of bank	Private Sector	52	1 (1.9)	38 (73.1)	9 (17.3)	0 (0.0)	4 (7.7)	13.046	0.110
	Public Sector	195	2 (1.0)	134 (68.7)	45 (23.1)	3 (1.5)	11 (5.6)		
	Private and Public Sectors	5	0 (0.0)	1 (20.0)	2 (40.0)	0 (0.0)	2 (40.0)		



	Total	252	3 (1.2)	173 (68.7)	56 (22.2)	3 (1.2)	17 (6.7)		
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MANOVA was used to analyse the relationship between customer satisfaction and usage of e-services of banks. It was found that a positive, strong relationship was found between customer satisfaction and usage of e-services with a significant increase in the trust of the customers in using the cashless transaction services of the banks implying that the quality and ease of use of the services met the requirements of the customers. The MANOVA details are specified in the

following Tables 5 and 6. This is in contrast to the study results of Nagdev et al. (2018) which specified that the technology did not meet the expectations of the customers. However, this was in accordance with the studies of Zhu and Nakata (2007) as well as Lal (2012) according to which the quality of the services was the important determinant of the satisfaction of the customers.

**Table 5. Descriptives for the impact demonetization factors on customer satisfaction**

Factors	Customer Satisfaction	Sub factors	Mean	Std. Deviation	N
Usage of e-banking	Trust	Using e-banking services after demonetisation	4.785	0.601	26
		Continuing to use	3.965	0.540	161
		Not using	3.760	0.376	65
	Lesser Complaints	Using e-banking services after demonetisation	4.808	0.468	26
		Continuing to use	3.802	0.604	161
		Not using	3.643	0.520	65

**Table 6 Test between subject effects for the impact demonetization factors on customer satisfaction**

Factors	Customer Satisfaction	Type III Sum of Squares	df	Mean Square	F	Sig.	R <sup>2</sup>
Usage of e-banking demonetization	Trust	19.942	2	9.971	38.330	0.000	0.235
	Lesser Complaints	0.969	1	0.969	2.263	0.134	0.009

**V. CONCLUSION**

The present study analysed the effect of demonetisation on the e-services of banks among customers of both public and private banks. It was found that there was an increase in the usage of the cashless transaction services of the banks after demonetisation in India. In addition, customers of younger age group (between 25 years and 45 years) were the maximum users of these services. The study on the relationship between the usage of e-services and customer satisfaction revealed that the customers were highly satisfied with the service with a significant increase in the trust of using the services. The major limitations of the present study were the sample population which was concentrated only in the city of Bangalore and the small sample size of 252 customers. Also, studies conducted after a few years will have the advantage of arriving at a whole pattern of changes which is not possible in the present study as the time period of the study is only three years after demonetisation. Future studies can extend to cover more areas of India to determine the status of the e-services usage in the country as well as be conducted over a large period of time.

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