

# A study on Customer's preference towards Digital Payment System during Covid-19: With reference to surat city

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**Abstract:** Many people across the globe have lost their sources of income. All these things have made the economic situation very unfortunate. However, digital payment modes play a very beneficial role in the face of this critical situation. Digital payments in India have risen since the Pandemic. The Coronavirus epidemic will eventually achieve what India's shock demonetization struggled to achieve four years ago by using digital payment from the electricity bill to the cab fares

**Keywords:** Digital Payment System.

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## 1. INTRODUCTION

Digital payments play an important role in this pandemic. In view of the current situation in which individuals are forced to maintain a physical distance, digital payment modes are actually being adopted. Many businesses were shattered completely after the arrival of the coronavirus. Small merchants, moreover, closed their shops. Many people across the globe have lost their sources of income. All these things have made the economic situation very unfortunate. However, digital payment modes play a very beneficial role in the face of this critical situation. Digital payments in India have risen since the Pandemic. The Coronavirus epidemic will eventually achieve what India's shock demonetization struggled to achieve four years ago by using digital payment from the electricity bill to the cab fares. Covid-19 pandemic has adversely affected the entire economy, even the Indian economy as well very badly. From 24th March 2020 onwards, throughout the nation Lockdown are started. This affected almost all the sectors, all the offices, malls, temples, schools, colleges, hotels were shut down. People stopped going out from their leaving places. This has given a major effect on the digital payment system. Before Covid-19, people prefer to use digital payment systems, but after the pandemic effect the number of user's has increased drastically.

## 2. REVIEW OF LITERATURE

Sudha. G, Sornaganesh. V, Thangajesu Satish. M, Chellama. A.V, August 2020. This paper discusses the different digital payment mechanisms used in the event of a pandemic based on primary data by gathering data from 220 respondents and the Digital India initiative is an Indian government flagship program whose vision is to turn India into a digital society and an information economy. In this futuristic world, all purchases can be made by contactless cards, smart phone apps and other electronic means. The Reserve Bank of India last year announced that it planned to raise digital transactions to about 15% of gross domestic product by 2021. The government is looking for a billion digital transactions per day as the fastest-growing mobile industry in the world. The collected data are analysed by applying Appropriate statistical tools like t-test, Chi-square test and ANOVA test.

**Objective of the study:**

- To study the concept of digital payment system.
- To know the usages of digital payments.
- To highlight the issues of digital payment systems.

**Limitation of the study**

- The study was confined to Surat city and its finding may not be applicable to other areas.
- There is possibility that the answer given by respondents may be biased.

### 3. DATA ANALYSIS

**1. Gender :**

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	73	48.3	48.3	48.3
	Female	78	51.7	51.7	100
	Total	151	100	100	

**Interpretation:**

From the total respondents (48.3%) 73 respondents are male respondents and (51.7%) 78 respondents are female respondents.

**2. Age(in year)**

Age(in year)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 20	8	5.3	5.3	5.3
	20-30	90	59.6	59.6	64.9
	30-40	49	32.5	32.5	97.4
	Above 40	4	2.6	2.6	100
	Total	151	100	100	

**Interpretation:**

In the above chart from the total respondents (5.3%) 8 are in the age group of below 20 years, (59.6%) 90 respondents are from the age group of 20-30 years, (32.5%) 49 respondents are from the age group of 30-40 years and only (2.6%) 4 are from the age group of 40 above.

**3. Educational qualification :**

Educational qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HSC	13	8.6	8.6	8.6
	Graduation	70	46.4	46.4	55
	Post-graduation	61	40.4	40.4	95.4
	Professional degree	7	4.6	4.6	100
	Total	151	100	100	

**Interpretation:**

In the above chart from the total respondents (46.4%) 70 respondents are graduates. (40.4%) 61 respondents are post-graduates. (8.6%) 13 respondents are done HSC and (4.6%) 7 respondents are professionals.

**4. Occupation**

Occupation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public sector job	27	17.9	17.9	17.9
	Private sector job	89	58.9	58.9	76.8
	Business	24	15.9	15.9	92.7
	Others	11	7.3	7.3	100
	Total	151	100	100	

[Table 4]

**Interpretation:**

In the above chart from the total respondents (58.9%) 89 respondents are doing private sector job. (17.9%) 27 respondents are doing public sector job. (15.9%) 24 respondents are doing business and (7.3%) 11 respondents are others.

**5. Income (per annum)**

Income (per annum)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	11	7.3	7.3	7.3
	Less than 1 lakh	18	11.9	11.9	19.2
	1 lakh to 5 lakh	81	53.6	53.6	72.8
	5 lakh to 10 lakh	41	27.2	27.2	100
	Total	151	100	100	

**Interpretation:**

In the above chart from the total respondents (53.6%) 81 respondents are earning income from 1 lakh to 5 lakh. (27.2%) 41 respondents are earning income from 5 lakh to 10 lakh.

(11.9%) 18 respondents are earning income from less than 1 lakh and (7.3%) 11 respondents are not earn any income.

**6. Duration of using digital payment system :**

For how long you have used digital payment system?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	9	6	6	6
	1-5 years	91	60.3	60.3	66.2
	5-10 years	37	24.5	24.5	90.7
	More than 10 years	14	9.3	9.3	100
	Total	151	100	100	

**Interpretation:**

In the above chart from the total respondents (60.3%) 91 respondents are using digital payment 5-10 years. (24.5%) 37 respondents are using digital payment 1-5 years. (9.3%) 14 respondents are using digital payment more than 10 years. (6%) 9 respondents are using digital payment less than 1 year.

7. Different digital payment methods used by the customers :

1. ATM/ Debit card

ATM/ Debit card					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	98	64.9	64.9	64.9
	No	53	35.1	35.1	100
	Total	151	100	100	

Interpretation:

In the above table from the total respondents (64.9%) 98 respondents are using ATM/ Debitcard payment method and (35.1%) 53 respondents are not using ATM/ Debit card payment method.

2. Credit card

Credit card					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	12.6	12.6	12.6
	No	132	87.4	87.4	100
	Total	151	100	100	

Interpretation:

In the above table from the total respondents (12.6%) only 19 respondents are using creditcard payment method and (87.4%) 132 respondents are not using credit card payment method.

3. Google pay

Google pay					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	78	51.7	51.7	51.7
	No	73	48.3	48.3	100
	Total	151	100	100	

Interpretation:

In the above table from the total respondents (51.7%) 78 respondents are using google paypayment method and (48.3%) 73 respondents are not using google pay payment method.

4. Phone pay

Phone pay					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	62	41.1	41.1	41.1
	No	89	58.9	58.9	100
	Total	151	100	100	

Interpretation:

In the above table from the total respondents (41.1%) 62 respondents are using phone paypayment method and (58.9%) 89 respondents are not using phone pay payment method.

5. Paytm

Paytm					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	67	44.4	44.4	44.4
	No	84	55.6	55.6	100
	Total	151	100	100	

**Interpretation:**

In the above table from the total respondents (44.4%) 67 respondent are using paytm paymentmethod and (55.6%) 84 respondents are not using paytm payment method.

**6. Internet banking**

Internet banking					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	23	15.2	15.2	15.2
	No	128	84.8	84.8	100
	Total	151	100	100	

**Interpretation:**

In the above table from the total respondents (15.2%) only 23 respondents are using internetbanking payment method and (84.8%) 128 respondents are not using internet banking payment method.

**7. All of above**

All of above					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	47	31.1	31.1	31.1
	No	104	68.9	68.9	100
	Total	151	100	100	

**Interpretation:**

In the above table from the total respondents (31.1%) 47 respondents are using all paymentmethod like ATM/ Debit card, credit card, google pay, phone pay, paytm and internet banking and (68.9%) 104 respondents are not using all payment method.

**8. Factor analysis:**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.786
Bartlett's Test of Sphericity	Approx. Chi-Square	802.964
	Df	153
	Sig.	<.001

**Interpretation:**

The KMO and Bartlett’s test is 0.786 and the sphericity is 0.000 so factors can be extracted and factors analysis can be run.

The KMO measures the sampling adequacy (which determines if the responses given withthe sample are adequate or not) which should be close than 0.5 for a satisfactory factor analysis to proceed. Kaiser (1974) recommend 0.5 (value for KMO) as minimum (barely accepted) values between 0.7-0.8 acceptable, and values above 0.8 are superb. Looking at the table above, the KMO measure is 0.786, which is higher of 0.5 and therefore accepted. Bartlett’s test is another indication of the strength of the relationship among variables. This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is matrix in which all of the diagonal elements are 1 and all off diagonal elements are close to 0. You want to reject this null hypothesis. From the same table, we can see that the Bartlett’s Test of Sphericity is significant. That is significance is less than 0.05. In fact, it is actually 0.000.

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<b>Communalities</b>		
	Initial	Extraction
What are the benefits you get by using digital payment systems? [Convenient]	1.000	0.565
What are the benefits you get by using digital payment systems? [Saves time]	1.000	0.528
What are the benefits you get by using digital payment systems? [24x7 service]	1.000	0.528
What are the benefits you get by using digital payment systems? [Easy to use]	1.000	0.533
What are the benefits you get by using digital payment systems? [Flexibility]	1.000	0.600
What are the benefits you get by using digital payment systems? [Increase prestige]	1.000	0.628
What are the benefits you get by using digital payment systems? [Cash less transaction]	1.000	0.659
What are the benefits you get by using digital payment systems? [non-banking hours also can get the benefit]	1.000	0.534
What are the difficulties faced by you when using digital payment systems? [Server problems]	1.000	0.631
What are the difficulties faced by you when using digital payment systems? [Lack to knowledge]	1.000	0.737
What are the difficulties faced by you when using digital payment systems? [Technical errors]	1.000	0.696
What are the difficulties faced by you when using digital payment systems? [Fear of fraud]	1.000	0.498
What are the difficulties faced by you when using digital payment systems? [Hidden charges]	1.000	0.574
What are the difficulties faced by you when using digital payment systems? [Connectivity issues]	1.000	0.568
What are the difficulties faced by you when using digital payment systems? [Lack of up-to-date information]	1.000	0.587
What are the difficulties faced by you when using digital payment systems? [Lack of security]	1.000	0.585
What are the difficulties faced by you when using digital payment systems? [Fear of losing money]	1.000	0.715
What are the difficulties faced by you when using digital payment systems? [Complicated instructions]	1.000	0.595
Extraction Method: Principal Component Analysis.		

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**Interpretation:**

The next item from the output is a table of communalities which shows how much of the variance (i.e. the communality value which should be more than 0.5 to be considered for further analysis. Else these variables are to be removed from further steps factor analysis) in the variables has been accounted for by the extracted factors. For instance over 73.7% of the variance in “What are the difficulties faced by you when using digital payment systems? [Lack to knowledge].” is accounted for, while 49.8% of the variance in “What are the difficulties faced by you when using digital payment systems? [Fear of fraud]” is accounted for.

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.13	28	28.5	5.13	28.5	28.5	3	15	15
2	1.891	11	39	1.891	10.5	39	3	14	29
3	1.474	8.2	47.2	1.474	8.19	47.2	2	12	41
4	1.253	7	54.2	1.253	6.96	54.2	2	10	51
5	1.013	5.6	59.8	1.013	5.63	59.8	2	9	60
6	0.876	4.9	64.6						
7	0.787	4.4	69						
8	0.755	4.2	73.2						
9	0.672	3.7	76.9						
10	0.617	3.4	80.4						
11	0.595	3.3	83.7						
12	0.575	3.2	86.9						
13	0.568	3.2	90						
14	0.485	2.7	92.7						
15	0.44	2.4	95.2						
16	0.354	2	97.1						
17	0.31	1.7	98.9						
18	0.206	1.1	100						
Extraction Method: Principal Component Analysis.									

**Interpretation:**

Eigenvalue actually reflects the number of extracted factors whose sum should be equal to number of items which are subjected to factor analysis. The next item shows all the factors extractable from the analysis along with their eigenvalues.

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The Eigenvalue table has been divided into three sub-sections, i.e. Initial Eigen Values, Extracted Sums of Squared Loadings and Rotation of Sums of Squared Loadings. For analysis and interpretation purpose we are only concerned with Extracted Sums of Squared Loadings. Here one should note that Notice that the first factor accounts for 28% of the variance, the second 11%, the third 8.2%, the forth 7%, and the fifth 5.6%. All the remaining factors are not significant.

<b>Component Matrix<sup>a</sup></b>					
	Component				
	1	2	3	4	5
What are the difficulties faced by you when using digital payment systems? [Lack of up-to-date information]	0.661				
What are the benefits you get by using digital payment systems? [Cash less transaction]	0.633		-0.440		
What are the difficulties faced by you when using digital payment systems? [Connectivity issues]	0.633				
What are the difficulties faced by you when using digital payment systems? [Lack to knowledge]	0.632	-0.388		0.400	
What are the difficulties faced by you when using digital payment systems? [Hidden charges]	0.613				
What are the difficulties faced by you when using digital payment systems? [Fear of losing money]	0.607				0.511
What are the benefits you get by using digital payment systems? [Saves time]	0.598		-0.352		
What are the difficulties faced by you when using digital payment systems? [Lack of security]	0.549	-0.329			-0.332
What are the difficulties faced by you when using digital payment systems? [Complicated instructions]	0.545		0.313		-0.336
What are the benefits you get by using digital payment systems? [non-banking hours also can get the benefit]	0.531		-0.412		
What are the difficulties faced by you when using digital payment systems? [Fear of fraud]	0.519			-0.415	
What are the difficulties faced by you when using digital payment systems? [Server problems]	0.517		0.355	-0.392	
What are the benefits you get by using digital payment systems? [Easy to use]	0.515	0.411			
What are the benefits you get by using digital payment systems? [24x7 service]	0.407	0.575			
What are the benefits you get by using digital payment systems? [Convenient]		0.553	0.396		
What are the benefits you get by using digital payment systems? [Flexibility]	0.410	0.524		0.337	



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What are the difficulties faced by you when using digital payment systems? [Technical errors]	0.541		0.558		
What are the benefits you get by using digital payment systems? [Increase prestige]		0.415	0.319	0.536	
Extraction Method: Principal Component Analysis.					
a. 5 components extracted.					

**Interpretation:**

The table above shows the loadings (extracted values of each item under 5 variables) of the 18 variables on the three factors extracted. The higher the absolute value of the loading, the more the factor contributes to the variable (18 items are divided into 5 variables according to most important items which similar responses in component 1, simultaneously in component 2, component 3, component 4, component 5). The gap (empty spaces) on the table represent loadings that are less than 0.5, this makes reading the table easier. We suppressed all loadings less than 0.5

<b>Rotated Component Matrix<sup>a</sup></b>					
Items	Component				
	1	2	3	4	5
What are the benefits you get by using digital payment systems? [Cash less transaction]	0.758				
What are the benefits you get by using digital payment systems? [Non-banking hours also can get the benefit]	0.691				
What are the benefits you get by using digital payment systems? [Easy to use]	0.677				
What are the benefits you get by using digital payment systems? [Saves time]	0.665				
What are the difficulties faced by you when using digital payment systems? [Lack of knowledge]		0.824			
What are the difficulties faced by you when using digital payment systems? [Hidden charges]		0.679			
What are the difficulties faced by you when using digital payment systems? [Connectivity issues]		0.660			
What are the difficulties faced by you when using digital payment systems? [Lack of security]		0.521			
What are the difficulties faced by you when using digital payment systems? [Technical errors]			0.780		
What are the difficulties faced by you when using digital payment systems? [Server problems]			0.724		
What are the difficulties faced by you when using digital payment systems? [Complicated instructions]			0.647		

What are the difficulties faced by you when using digital payment systems? [Lack of up-to-date information]			0.525		
What are the benefits you get by using digital payment systems? [Increase prestige]				0.736	
What are the benefits you get by using digital payment systems? [Convenient]				0.679	
What are the benefits you get by using digital payment systems? [Flexibility]				0.647	
What are the benefits you get by using digital payment systems? [24x7 service]				0.486	
What are the difficulties faced by you when using digital payment systems? [Fear of losing money]					0.717
What are the difficulties faced by you when using digital payment systems? [Fear of fraud]					0.591
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. <sup>a</sup>					
a. Rotation converged in 9 iterations.					

### Interpretation:

The idea of rotation is to reduce the number of factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier. Looking at the table above, we can see that the benefits of using digital payment systems like Cashless transaction, Non-banking hours, also can get the benefit, Easy to use, Saves time are substantially loaded on Factor 1. The items are sorted so that the items that have the highest loading from factor 1 (four items in this analysis) are listed first, and they are sorted from the one with the highest factor loading (0.758, Cashless transaction) to the one with the lowest loading from that first factor (0.665, Saves time). This Factor 1 is called Efficiency and ease of use.

The difficulties faced during the using of digital payment systems like Lack of knowledge, Hidden charges, Connectivity issue, Lack of security are loaded on factor 2. The next four items that have the highest loading from factor 2 are listed from highest factor loading (0.824, Lack of knowledge) to lowest loading (0.521, Lack of security). This Factor 2 is called Hidden Charges and Ignorance.

The difficulties faced during the using of digital payment systems like technical errors, server problems, Complicated instruction, Lack of up-to-date information are loaded for factor 3. The next four items that have the highest loading from factor 3 are listed from highest factor loading (0.780, technical errors) to lowest loading (0.525, Lack of up-to-date information). This Factor 3 is called Technical Issues.

The benefits of using digital payment systems like Increase prestige, Convenient, Flexibility, 24x7 service are loaded on Factor 4. The next four items that have the highest loading from factor 4 are listed from highest factor loading (0.736, Increase prestige) to lowest loading (0.486, 24x7 service). This Factor 4 is called Convenience and flexibility.

The difficulties faced during the using of digital payment systems like fear of losing money and Fear of fraud are loaded on Factor 5. The next two items that have the highest loading from factor 5 are listed from highest factor loading (0.717, fear of losing money) and lowest loading (0.591, Fear of fraud). This Factor 5 is called Security.

The five factors are:

1	Efficiency and ease of use
2	Hidden Charges and Ignorance
3	Technical Issues
4	Convenience and flexibility
5	Security

**Component Transformation Matrix**

Component	1	2	3	4	5
1	0.556	0.542	0.476	0.215	0.353
2	0.418	-0.501	-0.224	0.723	-0.027
3	-0.623	-0.111	0.611	0.474	0.040
4	-0.106	0.602	-0.250	0.378	-0.649
5	-0.341	0.283	-0.536	0.252	0.672

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

**9. Do you want to continue using digital payment systems?**

Do you want to continue using digital payment systems ?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	150	99.3	99.3	99.3
	No	1	0.7	0.7	100.0
	Total	151	100.0	100.0	

**Interpretation:**

In the above chart from the total respondents (99.3%) 150 respondents are continue using digital payment systems and only (0.7%) only 1 respondent is not continue using digital payment system.

**4. CONCLUSION**

This study highlights the Customer’s preference towards Digital Payment System during Covid-19. There are many digital payment modes are available in India, but most of the customers prefer only few digital payment modes like ATM/ Debit card, google pay, phone pay, paytm, internet banking. Because they were not having enough information of all the available digital payment systems.

Here on the basis of the responses it can be conclude that the customers mostly prefer to digital payment systems and mostly customers are continue using digital payment systems.

The factor analysis was carried out on eight variables attributed to performance of the benefits of using digital payment systems and the difficulties faced by the customers during using of digital payment systems. The names of these factors are Convenient, Saves time, 24x7 service, Easy to use, Flexibility, Increase prestige, Cash less transaction, Non-banking hours also can get the benefit, Server problems, Lack to knowledge, Technical errors, Fear of fraud, Hidden charges, Connectivity issues, Lack of up-to-date information, Lack of security, Fear of losing money, Complicated instructions.

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