



# KNOWLEDGE AND TECHNOLOGICAL DIMENSIONS OF ECONOMIC DEVELOPMENT

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Knowledge and Technological  
Dimensions of Economic Development



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# Knowledge and Technological Dimensions of Economic Development

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**edited by Dr. A Saravanan & Dr. B Chithirairajan**

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## Preface

**K**nowledge and Technology are the engines of economic growth for a nation. It is the technological progress that allows a country to produce more efficiently and produce better goods and services, as well as its delivery system, on which the prosperity of a country depends. Moreover, due to the technology and know-how, society has acquired a significant amount of knowledge to improve their living conditions, while the innovation that has resulted from the technology has further increased the flow of knowledge across institutions and businesses. However, technology is advanced, transferred, adopted, and used in production in ways that are very complex and have yet to pay off across countries.

The edited volume of the book is a collection of research papers from eminent scholars and academicians presented at the National seminar on "Knowledge and Technological Dimensions of Economic Development". This book explores the application of Digitalization and its benefits, opportunities, and challenges, Artificial Intelligence in agricultural and industrial sectors for sustainable production, Digital Payment systems and cashless transactions, the impact of the rupee on the Indian Economy, the problems and Prospects of Rural Women entrepreneurs, and the impact of Electronic Technology on entrepreneurs.

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Chapter  
**8**  
Perceived reasons for preferences and risks associated with digital payment modes during and post covid-19

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**Introduction**

The tide of cashless transactions has increased after India made a shocking decision to go de-monetary first. At the time, cash seemed to be preferred by people, but now people are starting to accept digital transactions as their preferred method of payment as it saves a lot of time and hassle. We rarely have to queue at a bank to pick up or to withdraw money at an ATM. A 2017 study found that people in Delhi spend around 6 million hours and ₹91 million trying to access cash. Meanwhile, the Reserve Bank of India and commercial banks together spent around ₹210bn on cash management spending in the same year.

Cumulative Payment Transactions in the last 12 months

	No. of Transaction (in Crore)	Growth in % (month on month)
Jan 2020	436.43	
Feb 2020	847.44	94.17
March 2020	1,262.84	49.02
April 2020	1,566.22	24.02
May 2020	1890.23	20.69
June 2020	2,298.85	21.62
July 2020	2,699.06	17.41
August 2020	3,132.43	16.06

Source: digidav.gov.in

It's also interesting to see the evolution of Indians' digital spending behavior over the past two years. Online purchases now account for 35% of his total Mastercard card spend. This means that more and more Indians are using debit cards, credit cards and prepaid his Mastercard cards for online purchases instead of direct cash transactions bundled with one dealer. This change in behavior

means that e-commerce giants like Flipkart and Amazon, taxi apps like Ola and Uber, and food delivery apps like Swiggy and Zomato are paving the way for digital payments, pushing customers away from cash-on-delivery. Can also be attributed to Digital payments have many advantages over cash-based transactions. Cashless payments deter robbery and many other crimes (Laura Army, 2014). I usually lock my smartphone, so even if I lose it, it won't be damaged as much as my wallet. Efficient payment systems enhance the overall efficiency of financial markets and

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financial systems, increase consumer confidence, and enable the exchange of goods and services (BIS, 2003). However, insecure and inconsistent payment systems impede the movement of funds between trading parties (Humphrey et al. 2006). Digital payments, on the other hand, ensure that transactions are carried out smoothly and at minimal cost. Researchers have observed that cashless payments bring business people increased efficiency, increased revenue, and reduced operating costs (Alliance, 2003). The resulting combination of increased operational efficiency and reduced operating costs opens the door to increased corporate revenue and business growth.

Payment Mode of BHIM \*99#, Rupaya Card on POS only

SL. NO.	STATES	DIGITAL TRANSACTION (BASED ON PER CAPITA BASIS)
1	Andhra Pradesh	17.683
2	Arunachal Pradesh	1.041
3	Assam	1.764
4	Bihar	1.361
5	Chattisgarh	38.481
6	Goa	5.886
7	Gujarat	2.389
8	Haryana	12.42
9	Himachal Pradesh	2.834
10	Jarkhand	1.81
11	Karnataka	6.538
12	Kerala	2.909
13	Madhya Pradesh	2.184
14	Maharashtra	6.948
15	Manipur	0.8
16	Meghalaya	0.765
17	Mizoram	0.548
18	Nagaland	0.584
19	Odisha	5.275
20	Punjab	2.041
21	Rajasthan	2.377
22	Sikkim	2.139
23	Tamilnadu	3.437
24	Telangana	2.571
25	Tripura	1.114
26	Uttar Pradesh	7.731
27	Uttarakhand	3.911
28	West Bengal	3.162

(Sources : digipay.gov.in)

It's also interesting to see the evolution of Indians' digital spending behavior over the past two years. Online purchases now account for 35% of his total Mastercard card spend. This means that more and more Indians are using debit cards, credit cards and prepaid his Mastercard cards for online purchases instead of direct cash transactions bundled with one dealer. This change in behaviour means that e-commerce giants like Flipkart and Amazon, taxi apps like Ola and Uber, and food delivery apps like Swiggy and Zomato are paving the way for digital payments, pushing customers away from cash-on-delivery. can also be attributed to future India needs to fully normalize cashless transactions and embark on its journey to become the next super-economy in the coming years, but there are some issues that need to be addressed along the

way. Having a sustainable and profitable business model that supports a new age digital ecosystem with robust cybersecurity systems powered by 5G, IoT and artificial intelligence is also critical. There are many challenges, but we believe a good start is on the way and governments are already gearing up for a safer and better cashless future. When this was mandated before, there was the social distancing crisis and COVID 19. The shift from offline to online payments has been going on for years. Nonetheless, customer behavior is increasingly changing in modern lockdown scenarios as a result of COVID 19. To ensure safety, NPCI encouraged its customers and all critical service providers to switch to digital payment systems. Solutions begin to appear and traders move into the "physical world". Also, you don't have to be



completely online. By sharing pictures and telling them what to buy, people can understand the messaging mechanisms they use to order and communicate, and ultimately pay digitally. Everyone collects things and goes to deliver them. After lockdown, until the world truly resolves this situation, we are at a stage where we need to be vigilant and take extra precautions to ensure our safety. This time, we are developing these solutions and innovations. It's all about meeting the needs of the general public, retailers, and businesses. Electronic payments are considered a major driver of economic development, particularly affecting spending and consumption.

### Review of Literature

Suriko et al. (2020) analysed how the people in the UK spend their money, based on personal financial transaction data. Research showed that when lockdowns first came into effect, people stocked up on essentials such as groceries. He also had 15% more cash on hand than before lockdown measures were introduced. This pattern continued until April 2022 reaching 20%. Survey results showed that the total amount that individuals spend on services varied greatly. Consumer spending on apparel, shoes, accessories, children's books and games had decreased since the first week of March. Prices for travel had been hit hard, while prices for leisure activities fell, sluggish until April 2020. According to the findings of Chronopoulos et al. (2020), COVID-19 and the community health initiatives enacted by the UK government were having a significant impact on how much and what types of items people in the UK spend. Researchers found that when COVID-19 was declared a pandemic on March 11, 2020, it prompted people in the UK to spend more money on groceries and stock up on supplies. Data showed that men, older people, and high-income earners spend more money on all kinds of purchases than women, young people, and low-income people. Shaktikanta Das (2019) said that, in the recent years, a focussed effort has been made to develop a state of the art national payments infrastructure and technology platforms, be it Immediate Payments Service (IMPS), Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), Bharat Bill Pay System (BBPS), or Aadhaar-enabled Payment System (AePS). This has changed the retail payments scenario of the country. The total volume of retail electronic payments witnessed about a nine-fold increase over the last five years.

### RBI-Digital Payments Index

The sub-parameters against which the digital payment index is measured are:

- Payment enablers (mobile, Adhaar, bank accounts, merchants)
- Payment infrastructure – demand side: debit cards, credit cards, prepaid payment instruments, FASTags
- Payment infrastructure – supply side: bank branches, business correspondents, ATMs, PoS terminals, QR codes, intermediaries
- Payment performance: Volume, value, unique users, currency in circulation,

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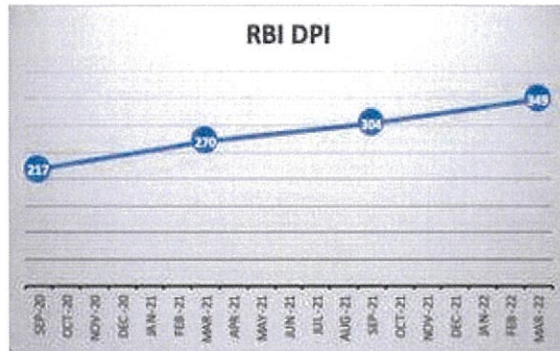
  
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cash withdrawals

- Consumer centricity: Awareness, declines, complaints, frauds, system downtime

It is also found that the technological innovation based on fintech can not only solve the trust problem of both sides of the transaction and effectively improve the transaction efficiency, but also overcome the problem of information asymmetry to a great extent through big data analysis and processing to improve the efficiency of financial resource allocation (Demertzis et al., 2018;



Source: <https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR87409BF18A37EC94E1AB4FB27D4495EDEB55.PDF>

Heiskanen, 2017). Moreover, fintech brings technological progress by providing innovative back-office services, education, and training to investors (Haddad & Hornuf, 2019). Other scholars use the theory of transaction cost economics and block chain technology to put forward a model to demonstrate how to use blockchain technology to overcome many problems in venture financing (Ahluwalia, Mahto, & Guerrero, 2020). As one of the main innovative modes of fintech, electronic payment has attracted more and more attention to its impact on household consumption. However, there is still a big dispute as to whether fintech and electronic payment can promote household consumption. Most scholars believe that electronic payment will promote household consumption. When electronic payment helps to make shopping more convenient and efficient, it is easier for people to get consumer credit, get more financial resources and actively participate in the digital economy, make transactions more secure and transparent, strengthen mutual trust between transactions and promote consumption (Zandi, Singh, & Irving, 2016). Other studies have shown that mobile money has an important impact on corporate growth, consumption, and macroeconomic development (Beck et al., 2018). Studies on mobile payments in developing countries have shown that mobile payment users can prevent a decline in consumption under the impact of natural disasters (Riley, 2018). In addition, studies have shown that there is obvious heterogeneity in the impact of fintech, electronic payment, and e-commerce on consumption. The purpose of this study is to explore the impact of reducing transaction costs on risk-sharing by estimating the impact of mobile money on consumption. The study found that although the shock reduced non-user consumption by 7%, consumer household consumption was not affected (Jack & Suri, 2014). Digital inclusive finance can promote household consumption, mainly promoting household recurrent expenditure on clothing, food, housing, transportation, medical care, education, and entertainment, and in third-



and fourth-tier cities, digital finance plays a greater role in promoting consumption than other families in families with fewer assets, low income and poor financial literacy (Li et al., 2020).

From an academic perspective, mobile payment and financial technology can both be classified into the category of the digital economy. As defined by Goldfarb and Tucker (2019), the digital economy is based on the digital technology which is the representation of information in bits. People can reduce the cost of storage, computation, and transmission of data. Given the characteristics of the digital economy, researchers pay more attention to its impact on traditional economic activities. From the perspective of research objects, the current literature can be divided into two strands. The first one emphasizes the macro impact of the digital economy. In contrast, other researchers pay more attention to its micro impact, such as the impact of the digital economy on corporate behaviors and individual behaviors. Specifically, from the macro perspective, some economists modify the classical macro growth model. Since a large amount of data will be generated in the production activities of enterprises, this data can react to the production activities of enterprises. Based on this consideration, some researchers apply the data generated in enterprise activities to the classical growth model to study the impact of the digital economy on economic growth. The representative literatures are Jones and Tonetti (2020), etc. By comparison, some scholars have shown great enthusiasm for the micro impact of the digital economy. With the wake of the information age, more data will be produced in the process of production, shopping, payments, etc. Therefore, some economists further explore its micro impact. For instance, Begenau, Farboodi, and Veldkamp (2018) point out that data is one of the important reasons for the increase of enterprise scale. Farboodi and Veldkamp (2020) study the impact of data on individual investment behavior. Among all the existing literature, the most relevant one is the literature on the relationship between digital economy and household consumption behaviors. For example, Jack and Suri (2014) use quasi-natural experiments from Kenya to study the impact of mobile payment on consumption smoothing. Li et al. (2020) explores the link between digital finance and household consumption by using the data from China. Compared with these previous literatures, this paper puts more emphasis on the impact of the digital economy on residents' entrepreneurial behavior. Specifically, we suppose that the digital economy can promote residents' entrepreneurship, increase their income, and further improve their consumption level. In addition, this paper also adopts a new database for empirical tests. All the contents constitute the main features of this paper. In the light of the above literature reviewed, Current study focuses on assessing the Preferences for customers switching over to digital payments and their fears, while doing so before and during the COVID-19 pandemic among the residents of Chembur, Mumbai and the role played by online payment in boosting the consumption levels, even when income levels fell a bit.

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**Objectives of the study**

1. Impact of Fintech on sustaining consumption expenditure
2. To throw light on the factors that have motivated them to adopt and stick on to online payment modes

**Primary sources of Data**

A purposive sampling method was adopted to elicit information. A structured questionnaire was administered to 200 residents of Chembur, Mumbai, who were employed in service sectors and earning a monthly income of Rs 50,000 to Rs 1,20,000 before lockdowns to Covid-19 were imposed. (October 2019) and the same respondents were hesitant to respond.

*Questionnaire consisted of four parts*

1. Demographic and socio-economic status
2. Income and Sources of Incomes of the households before and after the lockdown/ restrictions imposed
3. Expenditure patterns before and after the lockdown/ restrictions imposed
4. Preferred mode of payments for purchases made

**Period of the study**

October 2019- June 2020

**Secondary Sources**

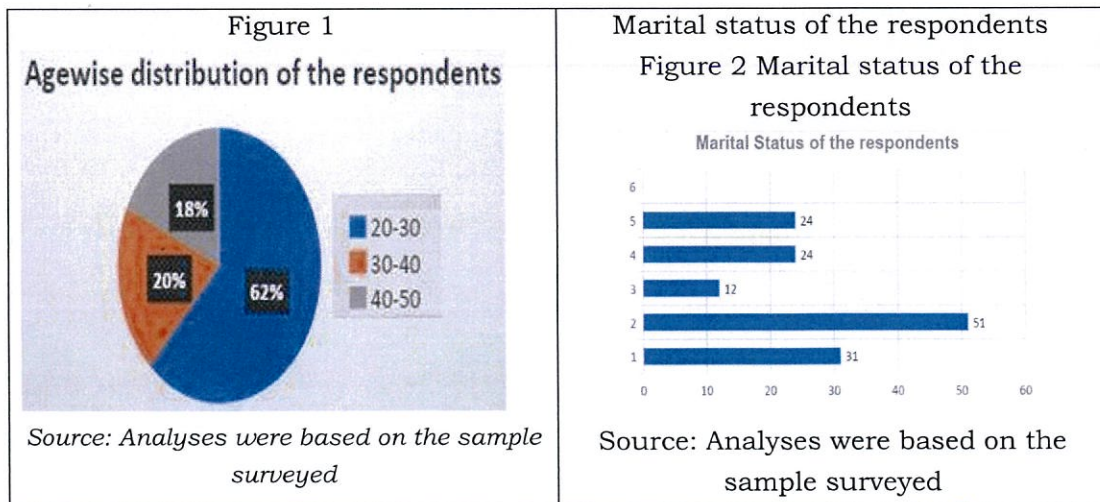
M.Phil/ PhD Thesis, Journals and other periodicals

The data so collected was analysed using statistical software. tools of analysis used

**Results and Discussion**

1. Demographic profile of the respondents

Figure 1 Age wise distribution of the respondents who shopped from online portals during work from home period



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**Hypotheses Testing Using Chi-square Analysis**

H0: There is no significant association between the income level of the respondents during lockdown and their adoption of online payment.

**Table 1:** Chi Square analysis to test the significant association of respondents' income on their online payment during lockdown.

Income	Online payment preference		Total	Chi-Square	Df	P value
	Yes	No				
Below 25000	18	10	28	13.39	6	0.04
25000-50000	41	5	46			
50000-75000	40	11	51			
75000-100000	28	11	39			
10000-150000	30	6	36			
Total			200			

Source: Analyses were based on the sample surveyed

From the above table 1 it is observed that  $p < 0.05$ , income has a significant role in the respondents' adoption of online payment for goods purchased that is positively correlated with the income level of the respondent.

**Table 2:** Chi Square analysis to test the significant association of respondents' income on their online payment during lockdown.

Income	Online payment preference		Total	Chi-Square	Df	P value
	Yes	No				
Below 25000	22	6	28	13.39	6	0.06
25000-50000	39	7	46			
50000-75000	45	6	51			
75000-100000	32	7	39			
10000-150000	30	6	36			
Total			200			

Source: Analyses were based on the sample surveyed

From the above table 2 it is observed that  $p > 0.05$ , income has no significant role in the respondents' adoption of online payment for goods purchased that is positively correlated with the income level of the respondent. To have a better understanding of the driving factors that influence the usage of online payment preferences by the respondents. Here we classified the factors under five factors: convenience, accessibility, risk, receptiveness and availability which helps to judge the intensity to adopt net banking or any other mode of online payments, were empirically validated with model fit for online shopping of essentials, before and during the lockdowns imposed, more specifically, during work from home period was successfully verified.

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**III. Factors influencing the respondents to use digital payment services**

All the respondents used digital payment services. They all used online payment which confirms their awareness. From among the respondents surveyed, a majority (54 per cent) of the respondents are aware about mobile banking through their friends and relatives and a significant amount of them (48 percent) came to know about mobile banking from the personnels of the banks with which they hold their accounts.

**IV. Customer perception about digital payment**

1. Popularity of digital payment

**Table 3: Reasons to use digital using on Convenience factor**

Reasons for preferring mobile banking	Number of respondents
24*7 Access	89
Time saving	83
Prompt service	67
Easy and quick transactions	72
Highly reliable	69
Easy to learn and use	81

**Table 4 Reliability Statistics for Convenience factor**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.649	.692	6

Table 6 shows us the reliability statistics of convenience factors. It can be said that based on the six factors of convenience, they have contributed to the popularity of mobile banking. The below listed are the sub-factors under convenience factor.

**Table 5 Inter Correlation Matrix for Convenience factor**

Inter-Item Correlation Matrix						
	24*7 access	Time saving	Prompt service	Easy and quick transactions	Highly reliable	Easy to learn and use
24*7 access	1.000	.777	.415	.474	.157	.351
Time saving	.777	1.000	.238	.372	-.011	.218
Prompt service	.415	.238	1.000	.092	.121	.197
Easy and quick transactions	.474	.372	.092	1.000	.227	.254
Highly reliable	.157	-.011	.121	.227	1.000	.205
Easy to learn and use	.351	.218	.197	.254	.205	1.000



Over 80 percent of the respondents prefer using digital banking as it gives them 24\*7 access, time saving and it's easy to learn and use the app. While over 60 percent of them opined that they use digital banking because of its prompt service, ease of transactions, high reliability and simple service. Cronbach's reliability shows the factors responsible for the popularity of digital payment. These six factors have contributed greatly to the popularity of digital payment among the respondents of the area.

Table 6 depicts the problems or concerns of digital opined by the respondents as perceived by them

**Table 6 Reliability Statistics for Accessibility factors**

<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>No of Items</b>
.710	.716	4

Table 6 shows the reliability test for accessibility factors put together. From the above table, it can be said that accessibility is one of the factors which has contributed to the popularity of mobile banking. The below given are the sub-factors of accessibility.

**Table-7 Accessibility factors**

<b>Concerns of the users</b>	<b>No of respondents</b>
Safety of personal information and hacking	76
Worried about security IN transaction	77
Digital battery consumption of the apps	70
Customer queries getting resolved promptly	69

Over 70 percent of the respondents were worried about their safety and personal information getting leaked, how secure would their transactions be, avoiding getting hacked and disconnection of the network or the specific transaction while transacting. They were also concerned about the receptivity of the services and how soon their queries would be addressed by the customer care executives.

Their satisfaction parameters could be measured by frequency of usage. About 51 percent of them put through banking transactions using their mobile phones every day. While over forty per cent of them used it several times a day and they opine that ease of use, time saving factor and user friendliness are the aspects that made them use online payment mode extensively.

**Table 8 Reliability Statistics for Risk factors**

<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>No of Items</b>
.663	.675	2

Table 8 shows the reliability statistics for risk factors. This confirms the risks, as opined the respondents are prevalent in online payment mode.

The reliability statistics table

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**Table 9 Inter-Item Correlation Matrix for Risk factors**

Factors	Safety of personal information and Hacking	Worried about security IN transaction	Digital battery consumption of the apps	Customer queries getting resolved promptly
Safety of personal information and hacking	1.000	.684	.376	.374
Worried about security IN transaction	.684	1.000	.238	.272
Digital battery consumption of the apps	.376	.238	1.000	.374
Customer queries getting resolved promptly	.374	.272	.374	1.000

**Table 10 Reliability Statistics for Receptive factor**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.747	.731	4

**Table 11 Item-Total Statistics for Receptive factor**

Factors	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Safety of personal information and hacking	11.3700	2.417	.654	.623	.620
Worried about security IN transaction	11.3600	2.374	.717	.699	.583
Digital battery consumption of the apps	11.6400	2.293	.652	.463	.619
Customer queries getting resolved promptly	12.0400	3.635	.182	.096	.846

**Table 12 Reliability Statistics for availability**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.744	.744	7

**Table 13 Item-Total Statistics for availability**

Factors	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
A high number of softwares	20.4600	5.705	.491	.356	.706
Wide range of anytime, anywhere access to financial services	20.4600	5.867	.484	.449	.708
Bank providing information /data	20.4700	5.646	.615	.457	.677
Banks provides material associated with its services	20.9000	6.394	.367	.219	.733
Address security concerns by outlining security measures	21.0600	6.340	.397	.194	.727
Front-line staff in promotion of mobile banking	21.1200	6.187	.493	.292	.707
Websites that allow an easy visualization	21.0300	6.474	.369	.210	.732

**Table 14 CRONBACH'S RELIABILITY TEST**

S.No	Groups	Cronbach's Alpha
1	Convenience	0.649
2	Accessibility	0.710
3	Risk	0.663
4	Receptive	0.747
5	Available	0.744

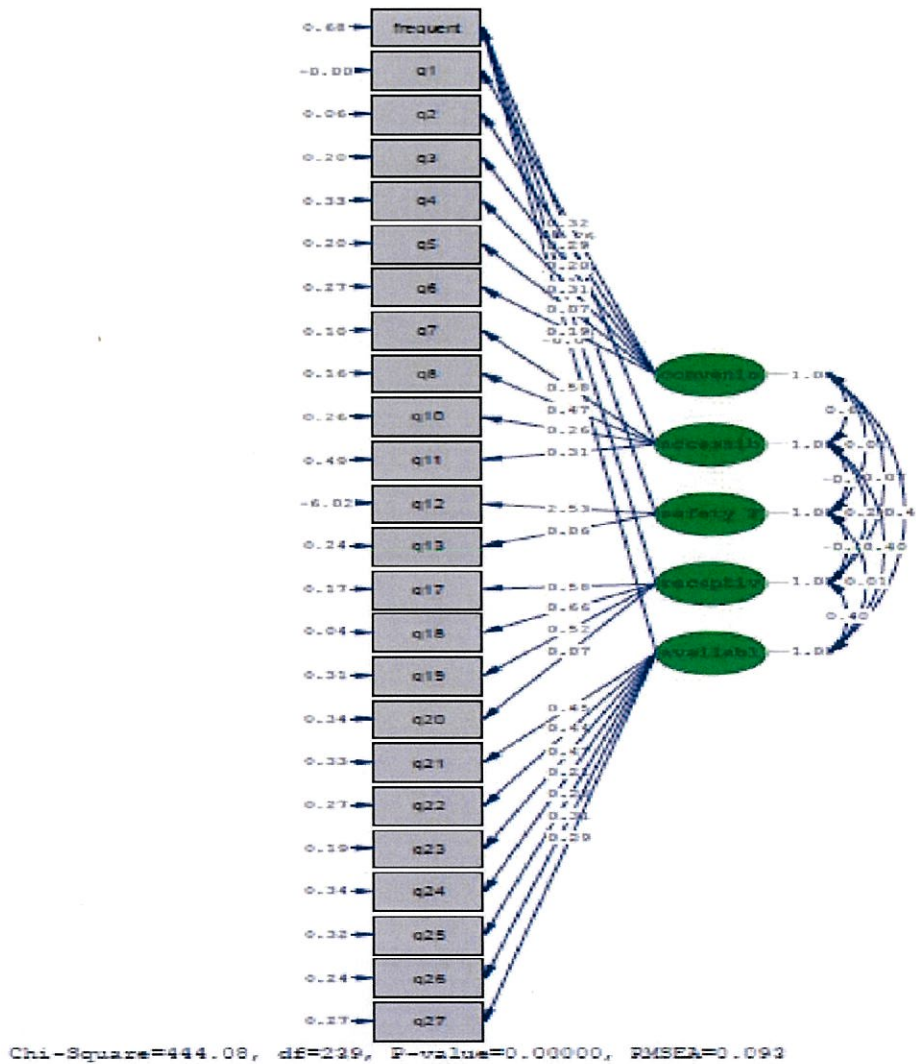
Table 14 depicts that customer satisfaction is based on the above four factors as the Cronbach's Alpha is above 65% for Convenience, Accessibility, Risk, Receptive, Available.

**Table -15 Chi-Square Test of Model Fit**

Value	444.08
Degrees of Freedom	239
P-Value	0.00
$\chi^2$ /df	1.86

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**Figure -3 path diagram for consumer usage of online payment mode**



The null hypothesis is that there is no significant difference between the patterns observed in these data and the model specified. So we accept the null hypothesis and conclude that the model is a good fit as the calculated value is lesser than the table value for the given degrees of freedom. Although the seems good, it is also appropriate to check the value of Chi-Square divided by df (Wheaton, Muthen, Alwin and Summers,1977) as the Chi-Square statistic is particularly sensitive to sample sizes (that is, the probability of model rejection increases with increasing sample size, even if the model is minimally false), and hence chi-square divided by degrees of freedom is suggested as a better fit metric (Bentler and Bonnett, 1980). It is recommended that this metric not exceed five for models with good fit (Bentler, 1989). For the current CFA model, as shown in above table Chi-Square is 1.86,



suggesting acceptable model fit. Another measure of goodness of fit is the root mean square error of approximation (RMSEA).

**Table-16**  
**RMSEA Test of Model Fit**

Estimate	0.093	
90 Percent C.I.	0.079	0.11
Probability RMSEA	< 0.05	0.00

If the model has to be accepted, it has to have the RMSEA estimate to be less than 0.05 and the above estimate is 0.093. The 90 percent confidence interval is 0.11, 0.79 and P value (Probability of Population RMSEA is less than 0.05 indicate the consistency of the model with the Chi Square and confirms its fitness. The model explains the correlation to within average error of 0.093(Hu and Bentler, 1990). So, the overall fit is confirmed and is an over-identified model.

**Table-17 Inter Construct Correlation Matrix**

	Convenience	Accessibility	Risk	Receptive	Available
Convenience	1				
Accessibility	0.63	1			
Risk	0.01	0	1		
Receptive	0.07	0.26	-0.05	1	
Available	0.48	0.4	0.01	0.4	1

Table 17 depicts the correlation matrix independent of the hypothesis tested relating to the pattern of causal structure linking several variables that bear on the construct of usage intention of online payment mode. Usage Intention is influenced by the Convenience, Accessibility, Risk, Receptive and Available on online payment mode.

Table-18

Hypotheses	B	Supported/ not supported
Convenience related to the usage of online payment mode	-0.26*	supported
Accessibility related to the usage of online payment mode	-0.022*	supported
Risk related to the usage of online payment mode	0.42*	supported
Receptive related to the usage of online payment mode	-0.036*	supported
Available related to the usage of online payment mode	0.68*	supported

\*Significant at 0.01 level

All hypotheses are accepted. Consumer intention to use online payment mode is influenced by Convenience ( $\beta = -0.26$ ), Accessibility ( $\beta = 0.22$ ), Risk ( $\beta = 0.42$ ), Receptive ( $\beta = 0.036$ ), and Available ( $\beta = 0.68$ ).

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Hypotheses	Latent construct	$\beta$	Supported/ not supported
24h Access related to the usage of online payment mode	Convenience	0.32*	supported
Time saving related to the usage of online payment mode	Convenience	0.29*	supported
prompt service related to the usage of online payment mode	Convenience	0.20*	supported
in speedy retrieval of account information related to the usage of online payment mode	Convenience	0.31*	supported
services ;easy and quick related to the usage of online payment mode	Convenience	0.071*	supported
Reliable related to the usage of online payment mode	Convenience	0.19*	supported
does not need much training related to the usage of online payment mode	Accessibility	0.58*	supported
not require a mental effort related to the usage of online payment mode	Accessibility	0.47*	supported
Learning IS easy related to the usage of online payment mode	Accessibility	0.26*	supported
Simpler/clearer service related to the usage of online payment mode	Accessibility	0.31*	supported
Free of unsafe personal information related to the usage of online payment mode	Risk	2.53*	supported
Worried about security IN transaction related to the usage of online payment mode	Risk	0.063*	supported
Mobile banking inquiries receive responses within the stipulated turnaround time related to the usage of online payment mode	Receptive	0.58*	supported
Employees are knowledgeable to queries related to the usage of online payment mode	Receptive	0.66*	supported
customer concerns v related to the usage of online payment mode	Receptive	0.52*	supported
flexible to customers' need related to the usage of online payment mode	Receptive	0.067*	supported
a high number of software's related to the usage of online payment mode	Receptive	0.45*	supported
wide range of anytime, anywhere access to financial services related to the usage of online payment mode	Available	0.44*	supported
Bank providing information /data related to the usage of online payment mode	Available	0.47*	supported
Banks provides material associated with its services related to the usage of online payment mode	Available	0.21*	supported
Address security concerns by outlining security measures related to the usage of online payment mode	Available	0.23*	supported
Front-line staff in promotion of mobile banking. related to the usage of online payment mode	Available	0.31*	supported
Websites that allow an easy visualization related to the usage of online payment mode	Available	0.29*	supported

\*Significant at 0.01 level

All hypotheses are accepted. Consumer intention to use online payment mode is influenced by Convenience factor which contains 24h Accessibility ( $\beta=0.32$ ), Time saving ( $\beta=0.29$ ), prompt service ( $\beta= 0.20$ ), speedy retrieval of account



information services ( $\beta=0.31$ ),; easy and quick ( $\beta=0.071$ ) and reliable ( $\beta=0.19$ ). In according to accessibility is influenced by not much training ( $\beta=0.58$ ), not require a mental effort ( $\beta=0.47$ ), easy learning ( $\beta=0.26$ ), and Simpler/clearer service ( $\beta=0.31$ ).

Under risk factors safe personal information ( $\beta= 2.53$ ), security in transaction ( $\beta=0.063$ ). Under Receptive factor Mobile banking inquiries receive responses within the stipulated turnaround time ( $\beta = 0.58$ ), Employees are knowledgeable to queries ( $\beta=0.66$ ), customer concerns ( $\beta=0.52$ ) and flexible to customers' needs ( $\beta=0.067$ ). In respective to availability factor, a high number of software's ( $\beta=0.45$ ), wide range of anytime, anywhere access to financial services ( $\beta=0.44$ ), Bank providing information /data ( $\beta=0.47$ ), Banks provides material associated with its services ( $\beta=0.21$ ), Address security concerns by outlining security measures ( $\beta=0.23$ ), Front-line staff in promotion of mobile banking.(  $\beta=0.31$ ) and Websites that allow easy visualization( $\beta=.29$ ).

To sum up, the research was carried out to have a better understanding of the motivational factors that influence the usage of online payment mode. Here we classified the factors under five factors say convenience, accessibility, risk, receptiveness and availability which helps to judge the intensity to adopt online payment mode were empirically validated with model fit for online payment mode acceptance was successfully verified.

### ***Impact of COVID-19 on consumption behaviour***

Over 90% of respondents said COVID-19 has affected their spending behavior. A majority of them, or 60%, believe their consumption and spending behavior has changed dramatically during COVID-19. 32 percent of the respondents said they were not worried about changing their spending habits. Ten percent of all respondents said COVID-19 had no impact on their purchasing behavior. Seventy-three percent of all respondents said they spent less during COVID-19, indicating a shift in spending patterns. However, 27% of respondents said they are increasing spending for COVID-19. 81% or the majority of respondents are spending money on groceries during COVID-19. Of that, she spends 11% on personal items, 4% on collecting her EMI, 2% on entertainment, and the rest 2% on eating out. COVID-19 forces customers to shop online.

Prior to COVID-19, online shopping was used for buying products which are not available in physical stores or when the top brands go for a clearance sale but the pandemic has increased both penetration and growth of e-commerce which has increased to 5% penetration rate from 3% before COVID-19 in India ("India's e-commerce penetration will double to 11 per cent by 2024: Goldman Sachs", The Economic Times, Jul 27, 2020).

The sudden global COVID-19 pandemic has severely affected e-commerce as well as consumers. They prefer to order online instead of going to a brick and mortar store. Exemplary impacts of COVID-19 on e-commerce activities have been

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studied in countries such as Pakistan (Bhatti, Akram et al., Nov. 2020), Malaysia (Hasanat, Hoque et al., Apr. 2020), India (Nivethitha, Manjula et al., November 2020). Research on the impact of COVID-19 with reference to Maslow's Hierarchy of Needs Turkey announced (DUYGUN and SEN, June 2020). The impact of COVID-19 on his B2B e-commerce activities has also been studied (Sheth, July 2020). Cashless economy supported this.

### Conclusion

The empirical results of the current study show that there is a direct relationship between online payment mode service quality, customer perception and satisfaction of the customers in the suburb under study dimensions and customer satisfaction in the banking industry. An understanding of the factors, revealed in the study, though there were security concerns, the advantages were more prominent than the drawbacks. This has led to the popularity of usage of digital payments among the respondents, to keep their consumption levels on...

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