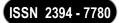


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A STUDY ON DYNAMICS OF DIGITAL PAYMENTS IN INDIA – PRE AND POST COVID-19 PANDEMIC ERA

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INTRODUCTION

The Government of India had launched the Digital India Programme Hon. Prime Minister Shri. Narendra Modi on 1st July, 2015 to bring about digital inclusiveness that covers electronic services, products, devices and varied job opportunities, with a vision to transform the nation into a digitally empowered society and knowledge economy¹. The programme highlighted three key vision areas namely described in table 1 –

Table no. 1

	1 able no. 1					
Vision areas	Key Highlights					
i. Digital Infrastructure as a	i. High speed internet availability					
Core Utility to every citizen	ii. Unique digital identity for every citizen					
	iii. Mobile Phone & Bank account for digital financial					
	inclusion					
	iv. Safe and Secure Cyber Space – digital lockers					
ii. Governance & Services on	i. Making financial transaction electronic and cashless					
Demand	ii. Portability & availability of all citizen entitlements on the					
	cloud					
	iii. Services across departments & jurisdictions to be					
	seamlessly integrated and digitally transformed					
iii. Digital Empowerment of	i. Universal digital literacy					
Citizens	ii. Universal accessibility and availability of digital					
	resources/services in Indian Languages					
	iii. Phasing out physical document submission of government					
	documents/certificates by citizens					

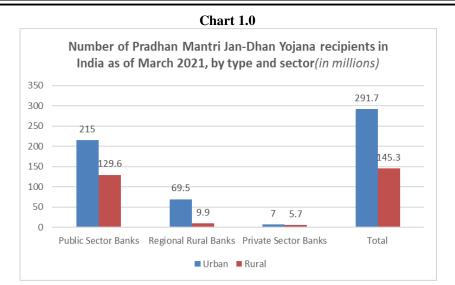
To promote comprehensive financial inclusion of all households in the nation, the 'Pradhan Mantri Jan-Dhan Yojana' (PMJDY) was launched as a national mission which anticipated universal access to banking facilities with the prime focus on atleast one bank account per household, financial literacy, credit access, insurance and pension. Table no. 2.1 highlights the number of accounts opened under PMJDY as on 31st January, 2015

Table no. 2.1

Bank Name / Type		unts opened under P 31.01.2015 (Summar			
	Rural (in crore)	Urban (in crore)	No Of Accounts (in crore)	No of Rupay Debit Card (in crore)	Balance In Accounts(In Lacs)
Public Sector Bank	5.330	4.514	9.844	9.123	817463.04
Rural Regional Bank	1.848	0.329	2.177	1.496	159948.08
Private Banks	0.322	0.201	0.523	0.459	72551.50
Grand Total	7.5	5.044	12.544	11.079	1049962.62

Source: PMJDY Statistics - https://pmjdy.gov.in/²

The following chart shows the number of Number of Pradhan Mantri Jan-Dhan Yojana recipients in India as of March 2021, by type and sector(in millions) which clearly states that Of a total nearly 440 million Pradhan Mantri Jan-Dhan Yojana recipients as of October 2021, about 290 million recipients came from rural/semi-urban areas in India.⁴



Source: https://www.statista.com/statistics/

Table no. 2.2 highlights the beneficiaries under PMJDY as on 05th January, 2022 which shows a significant rise in the number post the covid-19 pandemic era.

Table no. 2.2

		1	abic 110. 2.2			
	Number of	Number of	No Of			
	Beneficiaries	Beneficiarie	Rural-			Number of
	at	s at urban	Urban	Number of		Rupay Debit
	rural/semiurb	metro	Female	Total	Deposits in	Cards issued
Bank Name /	an centre bank	centre bank	Beneficiari	Beneficiari	Accounts(I	to
Type	branches	branches	es	es	n Crore)	beneficiaries
Public Sector						
Banks	21.84	13.12	19.28	34.95	120562.52	26.77
Regional Rural						
Banks	7.07	1.02	4.68	8.09	29664.83	3.43
Private Sector						
Banks	0.7	0.59	0.7	1.29	4689.12	1.1
Grand Total	29.6	14.72	24.66	44.33	154916.47	31.3

Source: PMJDY Statistics - https://pmjdy.gov.in³

This achieved a significant boost with the increase in number of mobile internet subscribers, as the countrys digital population increased approximately to 624 million users as of February, 2021.

DIGITAL PAYMENT METHODS

As part of promoting cashless transactions and converting the nation into less-cash society under the Digital India Programme following modes of digital payments are made available⁵:

Table 3 – Modes of Digital Payments

	Table 5 – Wodes of Digital Layments						
Sr.	Mode:	Key features/services:					
No.							
1.	Banking Cards	- Debit/Credit/Cash/Travel Cards					
		- Used 24/7 for online, instore shopping, cash					
		withdrawals, etc					
		- PoS (Point of Sale) machines, ATMs, microATMs,					
		Shops, wallets, online transactions, and for e-commerce websites					
2.	USSD - UNSTRUCTURED	- *99# - Common number across all Telecom Services					
	SUPPLEMENTARY	Providers					
	SERVICE DATA	- No need for mobile internet data facility					
		- Interbank account to account fund transfer, balance					
		enquiry and mini statements					
3.	AEPS – AADHAAR	- bank led model which allows online interoperable					

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	ENABLED PAYMENT	financial transaction at PoS through the Business Correspondent					
	SYSTEM	(BC)/Bank Mitra of any bank using the Aadhaar authentication					
4.	UPI – UNIFIED	- Merged Banking Features with seamless fund transfers					
	PAYMENTS INTERFACE	and merchant payments under the Banks own UPI App across all					
		platforms					
5.	Mobile Wallets	- Bank account linked to digital wallet to load					
		money/fund transfers and use it for payments					
6.	Banks Pre-paid Cards	- Pre-loaded with required amount used for varied					
	_	payments/e-commerce					
7.	Point of Sale (PoS)	- Place where customer executes the payment for					
		purchasing goods/services					
8.	Internet Banking	- Online Banking for Banks or Financial Institutions					
	_	- Range of Financial Transactions – National Electronic					
		Fund Transfer (NEFT), Real Time Gross Settlement (RTGS),					
		Electronic Clearing System (ECS), Immediate Payment Service					
		(IMPS)					
9.	Mobile Banking	- Use of Mobile Phone or Tablet for financial					
	_	transactions					
		- Usually Done through Apps of banks or financial					
		Institutions					
10.	Micro ATMs	- enable Business Correspondents to conduct instant					
		transactions – cash withdrawals and deposits					
	1						

Factors aggregating to the growth of Digital Payment System in India

a) Mobile Phones and Internet -

Witnessing a sharp increase by 47 million users (+8.2%) between 2020 and 2021, there were 624.0 million internet users in India in January 2021. Whereas internet penetration in India stood at 45.0% in January 2021.

There was a gradual increase by 23mn (+2.1%) in the number of mobile connections between January 2020 and January 2021 which lead to 1.10 bn mobile connections in the country in January 2021

- b) **Bank Accounts Under PMJDY** as of October 10, 2021, reached 43.57 crore and deposits in the Jan Dhan bank accounts aggregated over Rs. 1.45 trillion.
- c) UPI Unified Payments Interface (UPI) recorded 4.21 billion transactions worth Rs. 7.71 trillion in October, 2021
- d) **IMPS** The number of transactions through immediate payment service (IMPS) reached 430.67 million and amounted to Rs. 3.70 trillion (US\$ 49.75 billion) in October 2021.
- e) **POS and ATM** As at December 2019, there were around 49 lakh PoS terminals across the country. The ATMs and PoS terminals across the country have grown at a CAGR of 4% and 35%, respectively over the past 5 years.
- f) **Millennials and Gen. Z** customers are more comfortable with digital payments. Ignoring this segment can negatively impact businesses in the future.
- g) **Debit Cards & Credit Cards** as per RBI data for the month of November, 2021 the total number of debit cards issued were 93,40,07,125 and credit cards were 6,75,82,583 as shown in the below mentioned table:

Table 4 - ATM, Acceptance Infrastructure and Card Statistics for November 2021										
	Credit Cards					De	bit Cards			
No. of No. of outstandin Transaction g cards as (Actuals		sactions	Value of transactions (Rupees Lakh)		No. of outstandin g cards as	No. of Transactions (Actuals)		Value of transactions (Rupees Lakh		
at the end of the month	ATM	PoS	AT M	PoS	at the end of the month	of the	ATM	PoS	ATM	PoS
7	8	9	10	11	12	13	14	15	16	
67582583	54571 0	20111616 7	2758 8	892168 1	934007125	56636801 8	34039578 8	2710154 6	666021 8	

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Arguments For and Against Digital Payments:

	For	Against
1.	Convenience to the users	Greater risk of identity theft or fraud
2.	Discounts, cashbacks/reward points and	Difficult for those not tech-savvy as requires
	Freebies across platforms	digital literacy
3.	Digital hence carrying cash is ruled out	Sometimes may lead to overspending
4.	Universal applicability – transfers/payments	Constant need of internet connection

REVIEW OF LITERATURE

- 1. Rashi Singhal (2021)⁷ in her research paper titled 'IMPACT AND IMPORTANCE OF DIGITAL PAYMENT IN INDIA' discussed the framework of digital payments in India and highlighted the different types of digital payment systems in the nation. She also expressed the importance of digital payments for the country's economic viability.
- 2. K. Suma Vally and K. Hema Divya (2018)⁸ in their paper titled, 'A Study on Digital Payments in India with Perspective of Consumer's Adoption' discussed about the driving factors for growth of digital payments. Further in their survey of 183 respondents examined the effect of adoption of digital payments and its impact on banking consumers in India. They placed emphasis on banks for the need to create awareness on effective use of technology and security.
- 3. Dr Kota Sreenivasa Murthy (2019)⁹ in the research paper titled 'A Study On Digital Environment Mode Of Payments In Digital Banking System In India' discussed about the presence of digital environment in the economic system and the different modes of digital payments in a digital economy. He further analyzed the digital environment in India in the post demonetization era and highlighted the benefits of digital payments to consumers.
- 4. Malusare Lalita Babulal (2019)¹⁰ in her paper titled 'Digital Payments Methods in India: A study of Problems and Prospects.' focused on problems of digital payments in India and gave a broad overview about the statistics of different modes of digital payments. It concluded discussing the future prospects of India's digital payment system.
- 5. Dhruvi Bhagat (2020)¹¹ in the paper titled 'Digital Payments System in India and Its Scope in The Post-Pandemic Era' highlighted the significant role of digital payments and its growth during the covid-19 pandemic in 2020. Further impetus was given to gauge consumer adoption of various digital payment systems and their expectations regarding the same in the post-pandemic times through a survey of 220 respondents. The study proved the hypothesis that (i) Pandemic has led to an increase in the adoption of digital payments in India (ii) Hygiene concerns in handling and (iii) Security Concerns are important drivers for accelerating digital payment adoption.
- 6. Mamta, Prof. Hariom Tyagi and Dr. Abhishek Shukla (2016)¹² in their article titled "The Study of Electronic Payment Systems" targeted to enlist the issues and challenges of electronic payment systems and suggest quality improvement measures for the same. They further attributed the security and protection dimensions and its perception by consumers for success of digital payment systems.
- 7. Vidya Shree DV, Yamuna N. and Nitua Shree G (2015)¹³ highlighted the effect of the new digital payments systems on clients and issues experience. The research found that, individuals are more mindful about the online payments through portable applications. The researchers believed, both Paytm and Pay U cash are offering payment structures contrary with Digital payment system
- 8. Gochhwal, R. (2017).¹⁴ Unified Payment Interface—An Advancement in Payment Systems Believes that UPI can be a great enabler for financial inclusion in India and allow a huge set of population to be a part of the digital economy.

RESEARCH METHODOLOGY

The study is based on secondary data sourced from research papers, journals, news articles and official publications by RBI, NCPI, Government bodies covering Pre and Post Covid Era

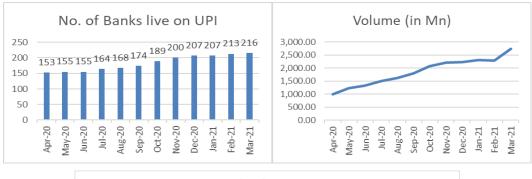
OBJECTIVES OF THE RESEARCH

- 1. To understand the framework of Digital India programme and digital payments in India
- 2. To study the factors impacting the growth of digital payments in India
- 3. To analyze the growth in digital payment transactions in India post covid-19 era

DATA ANALYSIS, INTERPRETATION AND FINDINGS:

1. UPI Payments in India¹⁵

The progress in UPI payments in the Post Pandemic Era can be seen from the following charts:





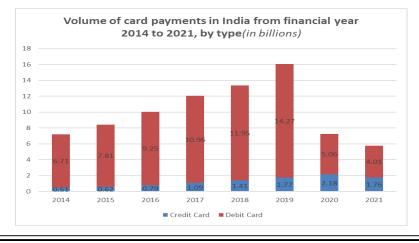
The number of banks live on UPI in March 2021 were 216, which saw a steep rise to 282 in December 2021, whereas the volume (in Mn) increased from 2731.16 in March 2021 to 4566.30 in December 2021. This shows the increasing trend in UPI payments and its popularity in the Indian Digital Payments Systems

2. Debit Card & Credit Card Payments In India

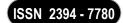
Due to increased UPI transactions and Covid-19 Pandemic the volume of card payments in India from financial year 2014 to 2021 has seen a decline from 16.04 bn in volume in FY 2019 to 7.24 bn FY 2020 and further to 5.77 bn in FY 2021 stating that consumers have shifted from the traditional plastic money payment mechanism to a card free payment mechanism.

Financial Year	2014	2015	2016	2017	2018	2019	2020	2021
Credit Card	0.51	0.62	0.79	1.09	1.41	1.77	2.18	1.76
Debit Card	6.71	7.81	9.25	10.96	11.95	14.27	5.06	4.01
Total	7.22	8.43	10.04	12.05	13.36	16.04	7.24	5.77

Source: RBI



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3. Other Digital Payment Statistics

The following table clearly states the dynamics in payment infrastructure. Payment through UPI QR and Bharat QR shows a massive 56.50% and 49.50% respective rise in September, 2021.

PART III - Payment Infrastructures (Lakh)								
	As on March	2020	202	% CHANGE				
System	2021	Sep.	Aug.	Sep.	Sep. 2021 over			
	1	2	3	4	Sep. 2020			
Payment System Infrastructures								
1 Number of Cards (1.1 to 1.2)	9602.51	9241.29	9777.46	9853.28	6.21			
1.1 Credit Cards	620.49	586.94	639.34	650.25	9.74			
1.2 Debit Cards	8982.02	8654.35	9138.11	9203.03	5.96			
2 Number of PPIs @ (2.1 to 2.2)	21952.60	19960.47	24099.33	22461.77	11.14			
2.1 Wallets	20052.10	18287.99	21927.39	20203.10	9.48			
2.2 Cards	1900.51	1672.48	2171.94	2258.68	25.95			
3 Number of ATMs (3.1 to 3.2)	2.39	2.34	2.41	2.41	2.90			
3.1 Bank owned ATMs \$	2.14	2.10	2.14	2.13	1.41			
3.2 White Label ATMs \$	0.25	0.24	0.27	0.28	14.29			
4 Number of Micro ATMs @	4.04	3.28	4.94	5.13	36.06			
5 Number of PoS Terminals	47.20	44.23	48.16	49.77	11.13			
6 Bharat QR @	35.70	22.99	52.47	52.85	56.50			
7 UPI QR *	925.22	604.07	1133.11	1196.08	49.50			

Source: RBI

CONCLUSION

Both cash and non-cash payment instruments fulfil distinguished needs of the users. Electronic/Digital Payments are increasing in popularity, but the country's diverse ethnic and economic patterns show mixed inclinations towards digital payments. However, the economic sphere shows more openness towards digitization.

The growing utility of retail digital payments is realized in its steep increase over the past years, and it indicates a gradual shift from the cash based economy. In the past a large population of the nation lacked access to personal bank account and credit. Digital payment methods (AePS, UPI, Direct Benefit Transfer (DBT)) have played a major role in helping manage personal finances and bring financial inclusion.

UPI and BHIM along with QR payments will play a significant role in the future of digital payments in India

LIMITATIONS OF THE STUDY

- 1. The study is based on secondary data sourced from research papers, journals, news articles and official publications by RBI, NCPI, Government bodies
- 2. Studies with regards to respective regions or states can be conducted by researchers as per need.

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