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TAPMI

TAPMI JOURNAL OF ECONOMICS AND FINANCE

TJEF

August 2022

Volume 7 Issue 1

TAPMI

Journal of Economics and Finance

- *A student run, peer reviewed journal*

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T.A. Pai Management Institute

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Established in 1980, TAPMI is one among the few institutes in India and worldwide to have been accredited with the illustrious Association to Advance Collegiate Schools of Business (AACSB) accreditation, as well as, with the Association of MBAs (AMBA), United Kingdom. The double-crown accreditation of AMBA and AACSB has propelled TAPMI to an elite club of five eminent business schools of India and brings it a step closer to its Vision 2022. The TAPMI campus provides an ideal setting for serious academic study and creativity, combined with entertainment and relaxation. Named after our founder, Shri. T.A. Pai, TAPMI was established with a vision of creating responsible business leaders, leaders who dream and achieve but with a resolve to make a difference. TAPMI is not just a B-school, it is a center of business excellence with over 30 years of experience in academics, research, and Executive Education. The institute seeks to promote and raise the standard of finance and management research in the country with our Banking and Finance centre and the Ph.D. program.

Word from the Editorial team

A new academic year has dawned upon us. We have gained a lot over the past few months be it in internships, academic projects, new experiences in life or some personal growth which cannot be defined by words. These experiences have helped us grow as managers and more importantly as managers which will help us grow in our careers and will in turn help in growing the organizations, we eventually work in.

In a world like today where there is never much certainty in what will happen within the next hour, it really wouldn't make sense to have a theme for this particular edition of the journal. Having a topic to write about is always a great thing to have, however what we were looking for in this edition is the best possible submissions without stifling the creativity of the writers while they bring out the best in whatever topic they like as long as it sticks to the general purview of economics and finance.

The creativity of a writer is something which all the editors in our team hold very dear to them and realize how much more they could do if they were not bound by a topic. Giving your own flair to a curated topic while giving nuanced views about it enhances the quality of work that writers are capable of doing. In a country like India where the opportunities are plenty and the potential is limitless, giving such an opportunity to brilliant minds across the country will only help them magnify their ability to make a proper effort in creating research articles that make a difference.

Through this journal, we hope to highlight the great articles from the research conducted by other students across the nation for your consideration. On behalf of the TJEF editorial board, I'd like to thank the writers for their sincere efforts in producing content for this journal. I hope that all of our readers will find these articles to be thought-provoking and inspiring.

We hope you enjoy this issue!

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The Shifts in Millennial Consumer Behavior Due to Disruption Caused by Digital Wallets in India

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August **2022**

ABSTRACT-

In a VUCA world, things are extremely unpredictable, and the onset of the COVID-19 took every industry by storm. The banking industry is witnessing seismic shifts as traditional net banking banks are being challenged by new-age, digital-only wallets that focus on a hyper-personalized digital-first approach to replace the traditional net banking experience. This research aims to understand the shifts in millennial customer behaviour that have taken place as they progress from net banking to digital wallets for their day-to-day payments. This research is based on primary quantitative data along with an intensive analysis of research papers, articles, and journals. The findings suggest that millennial customers are willing to try out new digital wallet apps and consider them reliable and convenient, indicating high levels of acceptance. Three key factors were majorly responsible for the change in customer behaviour from net banking to digital wallets 1) Performance efficiency 2) social influence 3) Safety. Therefore, digital wallets need to focus on these factors to maximize their digital interactions and embrace innovation to help millennials in their day-to-day banking needs.

KEYWORDS- Digital wallets, millennials, customer perception, net banking

INTRODUCTION-

(Katti S et al., 2020) For Indian customers, Demonetization has provided a unique platform for the adoption of digital payment as an alternative to cash. There has been an increased mobile and internet penetration led by a massive surge in digital payments, as well as a revolution in terms of growth, technology content, and market structure in the previous decade, due to government policy reforms. Furthermore, (Digital India Program, 2016) the Digital India is an initiative set in motion by the Indian Government in 2015 to transform Indian society into a digitally empowered society. (KPMG 2021) India is outpacing several sophisticated non-cash economies in terms of digital payments growth. Due to COVID-19 there was a rise in payments being made online, and as a consequence of convenience of use and a safer way of payment, payments made by digital wallets is anticipated to see a boom in transaction volume and users. (Varghese, 2012) Young Indians are more drawn to new mobile technologies, such as mobile wallets, since they love using them and prefer them for all of their financial and banking requirements. Factors affecting the digital payment system and E-banking sector are least dependent on physical infrastructure and more susceptible to disruption. Many users face problems while using net banking services, since digital wallets offer a simple user interface and fewer steps to complete a transaction, consumers, specifically millennials, preferred using digital wallets over net banking mobile applications. This study focuses on the factors that affect consumers' perception of digital wallet systems and net banking payment systems.

LITERATURE REVIEW-

(Aditya A 2021) Alternative delivery methods for banking, such as net banking and mobile banking are now available along with a smooth onboarding process. The need to guide customers through the technological changes being the main

challenge. (Wipro 2020) Online banking has seen a spike due to the pandemic, prompting financial institutions to embrace digitization to enable a variety of services such as online fund transfers, digital wallets, and more, all with the goal of providing a unified customer experience. (C. Vijai, 2019) The digital wallet is the equivalent of a physical wallet in which money is carried. The digital wallet is becoming more popular in a variety of applications, including money and banking transactions, cell recharge and bill payments, ticket reservations, utility apps, and so on. (Hoang Thi Hau et. al.,2020) different factors such as performance expectancy, perceived risks, and social influence pertaining to digital wallets on consumer behaviours. (Mckinsey & Company, 2020) Finally, behavioral changes are not linear, and their stickiness will depend on the satisfaction of the new experiences. For digital wallets, after the Covid 19 pandemic, it is safe to consider the acceptance and use of digital wallets will continue to grow and expand.

Furthermore, there are various factors leading towards the growing adoption of digital wallets in India-

1. Performance Efficiency – Performance efficiency will be described in the context of recording technologies that are often used in software usability studies (Lewis D). Performance Efficiency of a digital wallet can be defined by the speed with which it completes a designated task with a stipulated time period.

2. Social Influence - According to (Nysveen et al. 2005), social influence is described as "a person's perception that most people who are important to him think he should or should not perform the behaviour in question'. Once millennials see their peers and family using digital wallets they are motivated to do so too, thus driving up the usage of digital wallets.

3. Safety – (Yadav, 2017) Safety is the extent to which people assume that payments via digital wallets are safe and secure. Privacy and security must be emphasised on, thus affecting the growing adoption of digital payment wallets in India.

OBJECTIVE OF THE STUDY-

The purpose of this paper is to examine and highlight the shifts in customer behaviour that have taken place from traditional ways of payments to digital payment wallets.

It deals with the in-depth study of the factors that led millennials to adopt digital payment wallets as the go-to-option for their day-to-day payments. This paper is also designed to call attention to and discuss contemporary perspectives towards digital banking taken by millennials while exploring the future growth of payment wallets in the years to come.

RESEARCH METHODOLOGY-

A mixed research methodology of Qualitative & Quantitative data was adopted, and results from primary research via an online survey were analysed. The questionnaire consisted of 3 parts - the first focusing on demographic information, the second on perception towards net banking and the third section focused on the perception towards digital wallets. The third section of the questionnaire consisted of 15 questions based on the constructs of the study model. The data were analysed

using SPSS software, several statistical tests were performed, and data was compiled. A detailed and triangulated secondary data analysis was also used by reviewing fundamental literature in journals, articles, and published papers to identify and analyse the disruption of digital wallets in the banking sector, the factors that affect millennial's perception towards digital wallets, and the future scope of the same in today's VUCA world.

Constructs	Description	Source
Performance Efficiency	Digital wallets would be helpful in my day-to-day activities Digital wallets would help to speed up my financial transactions Digital wallets would help me save time to perform other tasks It is easy to access digital wallet apps Learning how to use digital wallets is easy for me Digital wallets are user-friendly Payments via digital wallets are done easily	Hau et al (2020)
Social Influence	I can obtain more incentives from digital wallet services than traditional payment methods I can quickly sign up for digital wallet services My family/relatives/friends think that I should use a digital wallet	Venkatesh et al (2003)
Safety	I don't feel completely safe while providing personal information for digital wallet services. I think other people may gain access to my data if I use digital wallets I feel concerned about protecting confidential information when it is shared via the digital wallet system	Hau et al (2020)

Table 1. Measuring scales of factors impacting the behavioral intention of using digital wallets in India

RESEARCH MODEL-

The proposed research model is inspired from Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Viswanath Venkatesh et al in 2003. Furthermore, it is based on the research model used in an empirical study of factors which affect the intention of using digital wallets in Vietnam. The research suggests that UTAUT can explain 70% of the variance in the intention of consumers using digital wallets. To make this research model easier to understand, the UTAUT moderating elements are removed.

The suggested research model comprises of three independent variables, which are - performance efficiency, social influence, and safety of the data and one dependent variable is disruption in millennial consumer behaviour.

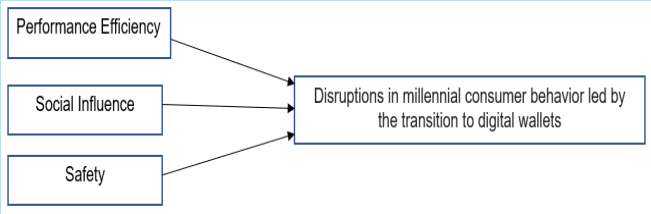

Fig 1. The proposed research models

Source: Proposed by authors.

DATA ANALYSIS AND FINDINGS-

A pilot study was conducted with 53 millennial respondents.

Demographic	Category	No. of Respondents	Percentage
AGE	18-23	29	54.7
	24-27	20	37.7
	27-30	4	7.6
GENDER	Male	24	42.9
	Female	29	57.1
EDUCATIONAL BACKGROUND	Diploma	1	1.9
	Undergraduate	11	19.6
	Graduate	29	51.8
	Post Graduate	12	21.4
ANNUAL INCOME	1-5 lakhs	42	79.2
	5-10 lakhs	8	15.1
	10-15 lakhs	1	1.9
	Above 15 lakhs	2	3.8

Table 2. Demographic Profile

The demographic profile of the respondents can be seen from the table above. With a majority of the respondents being within the age group of 18-23 years, with a well-balanced gender ratio, followed by graduate and post graduate respondents mainly falling within the income group of 1-5 lakhs followed by 5-10 lakhs. Thus, from this demographic

profiling both student and working millennials will have an affinity towards using digital wallets.

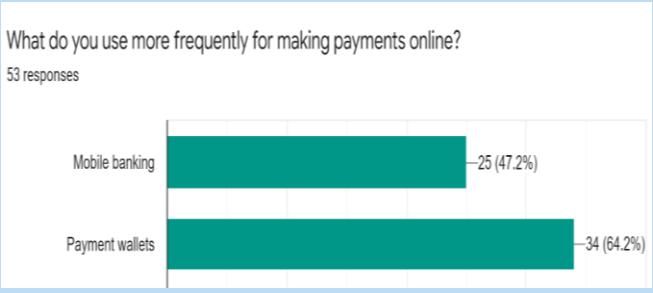

Chart 1. Modes used for online payments

64.2% of millennials use payment wallets like GPay, PayTM, PhonePe and Amazon Pay for making their payments as compared to 47.2% who still continue to use Mobile banking. This shows a wider acceptance of digital wallets and highlights the shifts taking place in the online payment segment.

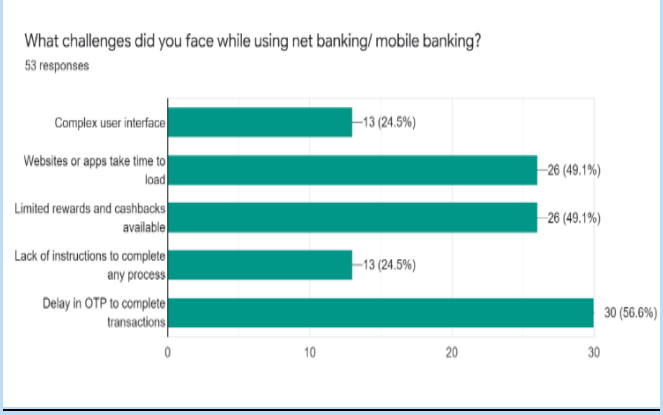

Chart 2. Challenges faced while using net banking

Via the survey, we further saw that the shift from mobile banking to digital banking was pushed due to severe limitations posed by mobile banking- slower websites and unnecessary delays, limited incentives, and poor UI/UX. In today's ever evolving and competitive digital world, mobile banking cannot keep up with the growing needs of millennials.

FACTORS LEADING TO THE GROWING ADOPTION OF DIGITAL WALLETS-

Rotated Component Matrix[a]

	Component		
	1- Performance Efficiency	2- Safety	3- Social Influence
Digital wallets would be helpful in my day-to-day activities	0.916		
Digital wallets would help to speed up my financial transactions	0.916		
Digital wallets would help me save time to perform other tasks	0.881		
I can obtain more incentives from digital wallet services than traditional payment methods			0.512
It is easy to access digital wallet apps	0.636		
I can quickly sign up for digital wallet services			0.659
Learning how to use digital wallets is easy for me	0.609		
Digital wallets are user-friendly	0.783		
Payments via digital wallets are done easily	0.845		
My family/relatives/friends think that I should use a digital wallet			0.842
I don't feel completely safe while providing personal information for digital wallet services.		0.794	
I think other people may gain access to my data if I use digital wallets		0.869	
I feel concerned about protecting confidential information when it is shared via the digital wallet system		0.817	
Digital wallets provide me with more services than net banking			
I will use digital wallets more often in the future	0.574		0.540

Table 3. Factor analysis

After performing factor analysis, there are three main factors responsible for the change in customer behaviours from net banking to digital wallets Performance efficiency, safety, and social influence.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.943	0.098		0.000
	PERFORMANCE	0.559	0.099	0.555	0.000
	SAFETY	0.175	0.099	0.174	0.084
	SOCIAL INFLUENCE	0.434	0.099	0.431	0.000

Table 4. Factor importance

Furthermore, since the significance value of performance and social influence is 0.000, we look at standardised coefficient Beta value, thus concluding that performance is the most important variable that plays a primary role in the millennial's perception towards digital wallets (highest beta value of 0.555), followed by social influence (0,431) and the least influencing variable being safety (0.174)

One-Sample Test	Sig. (2-tailed)
Digital wallets would be helpful in my day-to-day activities	0.000
Digital wallets would help to speed up my financial transactions	0.000
Digital wallets would help me save time to perform other tasks	0.000
I can obtain more incentives from digital wallet services than traditional payment methods	0.000
It is easy to access digital wallet apps	0.000
I can quickly sign up for digital wallet services	0.000
Learning how to use digital wallets is easy for me	0.000
Digital wallets are user-friendly	0.000
Payments via digital wallets are done easily	0.000
My family/relatives/friends think that I should use a digital wallet	0.000
I don't feel completely safe while providing personal information for digital wallet services.	0.040
I think other people may gain access to my data if I use digital wallets	0.479
I feel concerned about protecting confidential information when it is shared via the digital wallet system	0.001
I will use digital wallets more often in the future	0.000

Table 5. One sample T-Test

From the one sample t-test we can conclude that variables like usefulness, speed of transactions, ease of use along with societal influence, and cashback positively affect the perception of millennials and lead them to make the shift from traditional modes of payment towards digital wallets.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.990[a]	12	0.150
Likelihood Ratio	13.841	12	0.311
Linear-by-Linear Association	0.073	1	0.787
N of Valid Cases	53		
a. 17 cells (85.0%) have expected count less than 5. The minimum expected count is .09.			

Table 6. Pearson Chi-Square Test for annual income and frequency of usage of digital wallets

Since $p>0.05$ the researchers conclude that there is no significance relation between annual income and frequency of use of digital wallets in a month, proving that irrespective of which income bracket millennials come from, they transact frequently using digital wallets.

Thus, the future growth and adoption of digital wallets by millennials will be highly dependent on the ability of digital wallets to quicken the signup process, keeping the transaction process simple and hassle-free and being widely accepted by tying up with more vendors. In order to serve this digitally evolved generation of customers, banks and digital wallet apps will need to mine their historical customer data to make sure their offerings add real value to the millennial generation while building a user friendly and efficient system. Banks and Digital wallets service providers should address the pain point of delayed OTPs and build a robust system to minimize these types of hindrances. Finally, along with digitization, this shift demands to revisit the entire value chain, which consists not just

any consumer's journey, but specifically millennials.

FUTURE SCOPE-

The future scope of this research lies in conducting a penetration assessment to dive deeper and find out how the growth of digital wallets can penetrate through different sections of society, while developing an innovation matrix that allows to examine how digital wallets can come up with new technological innovations to address pain points.

CONCLUSION-

Today, mobile wallet start-ups are quickly reaching out to majority of the population, across all strata of society by taking advantage of disruptions to seize new possibilities. Digitalization of the banking systems and the Covid-19 pandemic has accelerated the usage of digital wallets. Millennials are responsible for the rapid shift from traditional net banking to digital wallets. Though Indian banks have grown more customer-friendly, service-oriented, and are considering digitising for most of their functions, they must move faster, overcoming the various customer pain points that exist. Banks must adopt faster to the changes in the payment ecosystem led by digital wallets. Having cutting-edge infrastructure in order to process massive amounts of data, evaluate real-time data, and top-notch security is a must today. The variables of perception and factors leading to the growing adoption of digital wallets were explored in this study. The findings suggest that consumers' perceptions have a favourable influence on their preferences. The most influential criteria in determining the preference level are ease of use, trust, social norms, and security. Our is a unique addition of this study, as there is very little discussion of the factors that influence digital wallet adoption in the literature. Based on the study's findings, it is concluded that factors such as performance efficiency, safety of the data and social influence are extremely important to millennials. Millennials expect end-to-end security of their data, while being able to complete a payment transaction within seconds. There is an upwards trend towards using digital wallets and it will continue to grow in the future.

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Economic Inequalities in India

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ABSTRACT

This paper analyses Economic Inequality in India for Exceptional disparity of income share, wealth, gender, Inequality between Rich & Poor, Rural & Urban populations, Reserved categories, Education, etc. For developing nations like India, where income inequality and economic growth go hand in hand, rising economic inequality has been a concern. Only a few of people have benefited from the Policy, leaving the great majority of people in need. It indicates that the benefits of liberalization and globalization have not yet reached those most need them. The current study aims to identify the Inequality gap between the rich and the poor in India with different factors and to investigate potential solutions.

KEY WORDS

Economic Inequality, Social, Rich-Poor, Education, Distribution of Wealth

INTRODUCTION

Economic inequality has grown to be a serious problem on a global scale. Inequality in wealth and income has risen in almost all countries over the past few decades.

I discuss the case of wealth inequality in India where 77% of the nation's wealth is held by 10% of Indians. There is an Exceptional income disparity in India, I have tried to discuss Income share, Income disparity in gender, and Carbon of top 1% and bottom 50%. How unskilled worker is having major loss after Internationalization and Informal jobs. Given policy suggestions that can be incorporated. Both multidimensional and intersectional exist in India. The interactions between several factors, such as income, employment, education, health, and household situations, highlight the severity of the deprivation. Both social and economic factors contribute to this deprivation. Boosting social security to include low-income households in the labour market so that the sources and possibilities of growth do not elude them. It has been noted that there is a correlation between income, health, and education. We have seen that the reserved category has not developed, and that the majority of its members are uneducated and underprivileged, resulting in income inequality compared to members of other castes.

ECONOMIC INEQUALITY

The top 10% of Indians, on average, made 96 times more money than the bottom 50%, according to the World Inequality Report 2022. Similar to this, Oxfam International asserted that in 2021, the richest 1% in India held approximately 77% of the nation's wealth

1%	77 percent of the nation's wealth is held by the wealthiest 10 percent of Indians. While 67 million Indians, who make up the poorest half of the population, witnessed only a 1% growth in wealth, the richest 1% received 73% of the wealth created in 2017.
70	India is home to 119 billionaires. Their population has grown from 9 in 2000 to 101 in 2017. India is predicted to create 70 new millionaires per day between 2018 and 2022.
10X	Over the past ten years, the fortunes of billionaires have expanded by almost ten times, and their combined wealth is now greater than the entire Union budget of India for the fiscal year 2018–19, which was INR 24422 billion.
63M	Many common Indians lack access to the necessary medical care. Every year, healthcare expenditures force 63 million of them into poverty — or nearly two people every second.
941 YRS	For a minimum wage worker in rural India to make what the highest paid CEO at a major Indian clothing firm makes in a year, it would take 941 years.

Source: (India: Extreme Inequality in Numbers, 2022)

Healthcare- The GOI spends among the least on public healthcare in the world. It has supported an increasingly potent commercial health sector in place of a

robust health service. The poorest Indian states have new-born mortality rates that are higher than those in sub-Saharan Africa, despite the fact that the nation is a leading destination for medical tourism. India is responsible for 17% of maternal deaths worldwide and 21% of mortality in children under the age of five (India: Extreme Inequality in Numbers, 2022).

EXCEPTIONAL INCOME DISPARITIES IN INDIA

Table: 1 Inequality Outlook

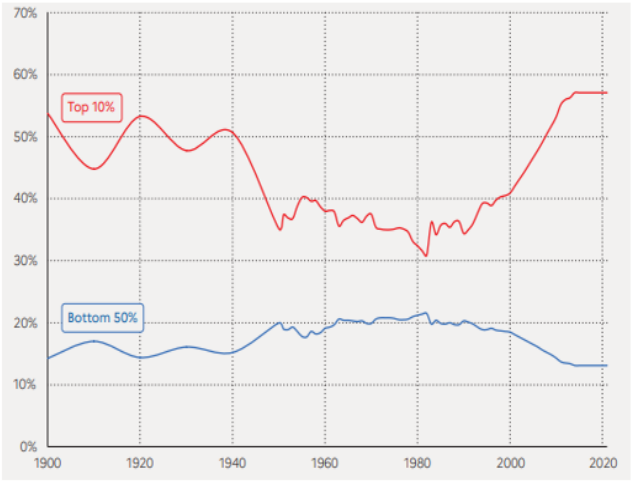
	Income		Wealth	
	Avg. Income (PPP €)	Share of total (%)	Avg. Wealth (PPP €)	Share of total (%)
Full population	7 400	100%	35 800	100%
Bottom 50%	2 000	13.1%	4 200	5.9%
Middle 40%	5 500	29.7%	26 400	29.5%
Top 10%	42 500	57.1%	231 300	64.6%
Top 1%	161 600	21.7%	1 181 400	33.0%
Top 10% to Bot. 50% Income gap			1 to 22	
Female labor share			18%	
GHG footprint			2,2 tCO2 / pers.	
Transparency index			5,5 / 20	

Source: see wir2022.wid.world/methodology

In research from WIB (2022).

The adult population of India earns an average national income of €PPP7,400 (or INR204,200). The bottom 50% gets €PPP2 000 (INR 53,610), while the top 10% make €PPP 42 500 (INR 1,166,520), which is more than 20 times. The bottom 50% share has decreased to 13%, while the top 10% and top 1% hold respectively 57 and 22% of the nation's total revenue.

Figure 1: Top 10% and bott om 50% income shares in India, 1900-2021



Source: see wir2022.wid.world/methodology

Indian income inequality was historically high (1858–1947)

During the British colonial administration, with a top 10% income share of over 50%. Following independence, socialist-inspired five-year plans helped lower this share to 35–40%. Since the middle of the 1980s, deregulatory and liberalizing policies have resulted in one of the sharpest rises in income and wealth disparity ever recorded. Economic changes have mostly benefited the top 1%, but growth among low and medium-income groups has been rather sluggish, and poverty has persisted.

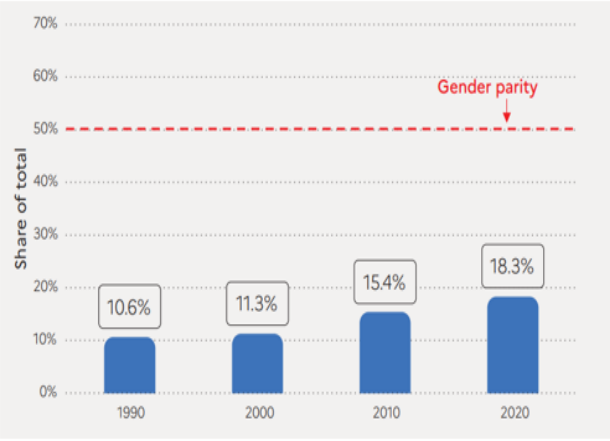
Figure 2: The wealth distribution in India

Source: wir2022.wid.world/methodology

In India, the average household has an income of €PPP35,000, or INR983,010 (as opposed to €PPP81,000 in China). With an

average worth of €PPP4,200, the bottom 50% own virtually nothing (6% of the total, INR66,280). In comparison to the top 10% and 1%, who own respectively €PPP231,300 (65% of the total) and over €PPP6.1 million (33%), INR6,354,070, and INR32,449,360, the middle class is similarly comparatively poor (with an average worth of only €PPP26 400 or INR723,930, 29.5%of the total).

Figure 3: Female labour income share in India, 1990-2020



Source: wir2022.wid.world/methodology

India has a lot of gender inequality. The percentage of female labour income is equivalent to 18%. Compared to the average in Asia (21%, excluding China), this is much lower. This value is among the lowest in the world.

Table 2 : Carbon Table

	Avg. GHG footprint (tCO2e/capita)
Full population	2.2
Top 1%	32.4
Top 10%	8.8
Middle 40%	2.0
Bottom 50%	1.0

Source: wir2022.wid.world/methodology

The carbon disparity

India's average consumption annually per person in India is just over 2 tCO2e. These amounts are equivalent to the nations in sub-Saharan Africa. Average emissions from the bottom 50% of Indians are five times lower than those from the bottom 50% of the population in the EU and ten times lower than those from the bottom 50% of the population in the US.

INCOME INEQUALITY BETWEEN THE RICH & POOR AND THE GAP BETWEEN THE RURAL AND URBAN

Table: 3 Indian Income by Income Class

Income Class	Max	% Of Population	% Of Income
Poor	6807	18%	3%
Middle	27235	60%	36%
Affluent	2168054	22%	61%

(Source: India Human Development Survey Working Paper No. 16)

The preceding table makes it clear that there is an unequal distribution of money across the various social stratum in India; 22% of the population owns 61% of the country's income. More significantly, the income of wealthy class households is 20 times more than that of middle class and poor class households, which together make up 60% of India's population yet receive only 36% of the country's income. If we divide income disparity into deciles, the situation seems even worse.

Table: 4 Indians' Income in Deciles Form

Income Class	Max	% Of Population	% Of Income
Lowest	5,024	10%	1%
2nd	7,235	10%	2%
3rd	9,162	10%	3%
4th	11,187	10%	4%
5th	13,618	10%	5%
6th	16,880	10%	6%
7th	21,495	10%	8%
8th	29,016	10%	11%
9th	43,672	10%	17%
Highest	2,168,054	10%	41%

(Source: India Human Development Survey Working Paper No. 16)

In deciles, we find that the top 20% of the population receives 58% of the income, while the bottom 20% must make do with just 3%. It implies that those in the top 20 percentile are more than 19 times wealthier than those in the lowest 20 percentile. In India, the top 10 % of earners are 41 times wealthier than the bottom 10%, as can be seen by comparing their incomes. If we use the fifth decile is the median class, we can see that its members are 5 times wealthier than those in the lowest decile and 8 times wealthier than those in the top decile.

HOUSEHOLDS' SOURCES OF INCOME INEQUALITY

75% of Indian households derive their income from daily or monthly wages from employment.

The fact that nearly 50% of Indian households derive some of their income from agriculture is another noteworthy aspect of their source of income. Family businesses provide income for about 20% of households. On the other hand, wealthy households often find their income from sources that are high yielding, while poor households typically find their income from sources that are less yielding.

Additionally, it has been discovered that 57% of wealthy households get money through a job, while 10% of poor households receive income from this source. Another interesting contrast. The households' perspective on this element of income distribution in India is that having a median wage of Rs. 37,920, paid families are better off than poor families. The typical salary for agricultural labour is Rs. 10, 577. This demonstrates that Wealthy households with salaried income are around four times wealthier than the underprivileged households that on farming for their income.

Table: 5 Structure of Indian Household Income

	Proportion of Households Receiving Any Income				Median for households with income
	total poor		middle	affluent	
Wages and Salaries	72	68	75	68	21,957
Salaries (monthly)	29	10	24	57	37,920
Agricultural wages	29	41	34	7	10,557
Non-agricultural wages	28	28	34	10	15,749
Businesses	20	12	21	27	25,135
Own farm	52	64	51	45	7,108
Crops	38	50	36	33	7,596
Animals	42	51	42	33	1,086
Remittances	5	5	5	7	11,372
Rents and pensions	10	5	7	23	13,362
Government benefits	13	17	13	8	814

(Source: India Human Development Survey Working Paper No. 16)

SOCIO-LED ECONOMIC INEQUALITY

Table: 6 Wealth, Income, and Consumption Mean Values-IHDS 2011

	SC	ST	OBC	FC(Brahmin)	FC(Non-Brahmin)	Muslim	Others	OVERALL
Annual Income of HH (in Rs)	89,356	75,216	104,099	167,013	164,633	105,538	242,708	113,222
Per Capita Annual Income (in Rs)	19,032	16,401	21,546	35,303	36,060	20,046	56,048	23,798
Annual Consumption of HH (in Rs)	87,985	72,732	108,722	146,037	143,497	102,797	181,546	109,216
Per Capita Annual Consumption (in Rs)	18,740	15,860	22,503	30,869	31,430	19,525	41,924	22,956
ASSETS	12.7	10.2	14.7	18.2	17.9	13.3	22.2	14.6
ASSETS2005	12.2	9.9	14.2	17.5	17.1	12.9	21.2	14.1
Highest Adult Education	6.7	5.9	7.8	11.5	10.3	6.6	11.6	8.0
Highest Male Education	6.3	5.6	7.5	11.3	9.9	6.0	10.5	7.6
Highest Female Education	3.9	3.3	5.0	8.6	7.8	4.6	10.0	5.3

(Source: Wid. World Calculation, NFHS IHDS 2011 datasets. Design weights are used to estimate these values)

The average household income in India is ($9, 435/month). The ST and SC groups' annual incomes are respectively 0.7 and 0.8 times lower than the average income for all of India. OBC and Muslims both have household incomes that are roughly 0.9 times higher than the national average. The average household income for the Forward Castes (FC), with a small difference between Brahmin and Non-Brahmin households, is 1.4 times the average income for all of India. Based on average income, there is sequential inequality with the following rankings: ST SC Muslim OBC OVERALL FC (Non-Brahmin) FC (Brahmin) Others trend. At the level of yearly income per capita, we observe a similar pattern.

Table: 7 Representational Inequalities

		2002			2012		
	caste_group/deciles	Bottom 50%	Middle 40%	Top 10%	Bottom 50%	Middle 40%	Top 10%
INDIA	ST	0.36	-0.32	-0.72	0.4	-0.36	-0.75
	SC	0.37	-0.31	-0.81	0.32	-0.26	-0.79
	OBC	-0.03	0.06	-0.21	-0.05	0.08	-0.17
	FC	-0.34	0.27	0.91	-0.3	0.21	0.98
	Muslim	0.19	-0.14	-0.51	0.12	-0.07	-0.46
	Others	-0.63	0.05	4.58	-0.58	0.01	4.4
RURAL	ST	0.34	-0.33	-0.71	0.34	-0.32	-0.76
	SC	0.35	-0.34	-0.84	0.28	-0.26	-0.75
	OBC	-0.06	0.08	-0.09	-0.1	0.12	-0.04
	FC	-0.38	0.37	0.89	-0.27	0.22	0.94
	Muslim	0.18	-0.17	-0.45	0.11	-0.06	-0.57
	Others	-0.71	0.05	6.88	-0.6	-0.11	7.44
URBAN	ST	0.34	-0.28	-0.45	0.34	-0.29	-0.45
	SC	0.37	-0.25	-0.75	0.36	-0.23	-0.81
	OBC	0.07	-0.01	-0.32	0.06	-0.01	-0.27
	FC	-0.24	0.15	0.57	-0.28	0.17	0.67
	Muslim	0.22	-0.12	-0.61	0.24	-0.16	-0.49
	Others	-0.5	0.11	2.11	-0.46	0.07	2.17

(Source: World Inequality Lab)

We note that the top 10% and middle 40% of the population, where nearly 90% of the wealth is concentrated, have a disproportionately higher presence of FC. Muslims, SCs, and STs are disproportionately more prevalent in the Bottom 50%. All wealth deciles have an equal distribution of OBCs. Regarding the relative wealth share, the representational inequality is quiet.

Table: 8 Wealth Index-NFHS 2005

	Wealth Index				
	Poorest	Poorer	Middle	Richer	Richest
Overall	20.63	19.82	19.86	19.6	20.09
ST	51	23.09	12.87	7.78	5.26
SC	28.47	24.8	21.19	16.08	9.46
OBC	18.87	21.66	22.94	20.7	15.83
FC(Brahman)	4.62	9.7	13.86	21.9	49.91
FC(Rajput)	7.27	13.78	21.9	25.89	31.15
FC(Bania)	5.8	11.86	16.52	22.17	43.66
FC(Kayasth)	2.17	5.25	10.89	24.67	57.02
FC(Other)	9.75	13.42	17.13	24.45	35.26
Muslim	20.91	21.19	19.11	21.8	16.99
Other	2.45	4.08	9.45	22.2	61.81

(Source: World Inequality Lab)

Table: 9 Highest Education Level-NFHS 2005

	Highest Adult Education in HH		
Caste Group	Overall	Male	Female
ST	4.34	3.92	1.8
SC	5.69	5.11	2.61
OBC	6.81	6.1	3.62
FC(Brahman)	11.88	10.87	8.28
FC(Rajput)	9.05	8.23	5.71
FC(Bania)	10.33	9.57	6.81
FC(Kayasth)	12.33	11.04	9.86
FC(Other)	9.16	8.15	6.35
Muslim	5.84	4.97	3.35
Other	10.83	9.22	8.51

(Source: World Inequality Lab)

REASON FOR ECONOMIC INEQUALITIES IN INDIA

Informal employment like tasks at home, hawking and vending on the side of the road, and contract work are all included. Greater economic inequality and an increase in informal employment are frequently associated. The reasons for this rise in income inequality due to the expansion of informal jobs are associated with low wages, jobs are unstable in nature, jobs are not at all supportive of accumulation of human capital and growth of career.

Effects of globalisation on income disparity are possible. Numerous commodities and services now have different production

processes because of globalisation. For instance, a cell phone. The process of internationalising production drives up the demand for skilled labour, widening the wage gap between skilled and unskilled labour.

Underemployment and unemployment, result in low labour productivity. Low labour productivity is a sign of slow economic growth, which is what mostly drives poverty and inequality among vast populations. There are connections between poverty, unemployment, and inequality.

Workers in the organised sector receive greater earnings during times of inflation, somewhat offsetting the impact of price increases. However, the pay for employees in unorganised businesses (such as agriculture and small-scale and cottage industries) does not rise. As a result, their real income decreases.

The category's underdevelopment is a result of poor policy implementation by the government. In the case of the Freeship card programme, students from the SC community receive full government funding for their tuition, but when students inquire as to whether their card is acceptable at their college, the answer is no. Additionally, there isn't a list specifically stating which universities are permitted or what a student should do when colleges reject card. These students cannot receive a quality education as a result.

Higher education, for instance, students who want to pursue an MBA need to give 10s of tests like the CAT, XAT, NMAT, CMAT, SNAP, IIFT, and others since our system does not want to operate on the basis of "ONE NATION, ONE EXAM." And this result in a 1–2-year period of preparation during which pupils are unable to learn anything beyond entry requirements. Additionally, students have to pay between 10k-25 k as their exam fees and between 25000 - 75000 for the application fee. What about the bottom 50% who, in this case, cannot even receive a top-notch education? How are they supposed to pay for coaching and fill out several papers when they don't have the money for their fundamental needs?

Income tax rates in India are relatively high. High tax rates promote tax avoidance and evasion and create a parallel economy. The unofficial economy in this country is just as robust as, if not more robust than, the official economy. High tax rates contribute to income and wealth distribution inequalities. This is due to excessive income concentration in a small number of hands brought on by widespread tax evasion. With indirect taxes, the government receives the most money. Due to the government's increasing reliance on such taxes, such levies have also over time increased inequality.

Effects

In a nation like India, where economic inequality has broad ramifications and hinders the socio-economic advancement of the nation. Expanding economic inequality concerning it immediately contradicts the notion of equality held by our nation. Can see social unrest as a result of the widening economic gap, and protest movements can gain momentum. The country can experience a state of system devastation when the connection between various classes is severed. Forces of secession will be directly fuelled by economic inequality.

POLICY SUGGESTION

Slower economic growth is related to rising inequality. It makes sense to look to the five Nordic nations that have achieved high levels of equality and welfare. This is a result of a strong emphasis on social solidarity, taxation, and increased spending on healthcare and education. These nations, unlike the majority of others, provide free higher education to their residents and have innovative educational systems.

There is evidence that shows spending on social safety, healthcare, and education reduces inequality. For instance, poor individuals might be able to save money if the government made investments in free, high-quality public services. Additionally, the government must increase its spending on R&D and innovation.

Another option would be to directly reduce income inequality by raising taxes on the wealthiest people. These taxes can further reduce inequality if they are utilised to pay for public services. Tax credits for businesses that distribute more of their profits to their workers can also assist to reduce the imbalance.

The fundamental cause of income and economic inequality in India is the disparity in skill. Therefore, skill matching is an important solution. More talent matching means reduced wage inequality amongst workers. Unskilled workers will be able to offer their labour in a globalised market for a higher wage if they receive education and training for skill development.

Table: 10 Mean and Median Household Incomes, Consumption and Poverty

	INCOME		CONSUMPTION		% POOR
	Mean	Median	Mean	Median	
All India Education	47,804	27,857	48,706	36,457	25.7
No education	21,734	17,017	29,595	24,502	38.1
1-4 std	25,984	18,800	33,365	27,876	37.2
5-9 std	35,718	25,920	41,803	34,338	29.7
10-11std	53,982	39,961	55,341	45,040	18.7
12std-some college	69,230	48,006	65,717	52,494	14.8
Graduate/diploma	1,11,004	85,215	89,186	70,897	6.8

(Source: IHDS 2004–05 data)

The actual data supports the idea that income growth is positively correlated with education level. The bulk of India's poor population are either uneducated or only have a basic level (1-4 std.) of education. Table 6 makes clear that the majority of India's poor (those with no formal education and those with little more than the fourth grade) make up 75% of the population. The government must create a long-term plan for the advancement of education and skill and increase financial support for it. The primary education system in India is the most underfunded and urgently needs repair. The student-teacher ratio and the standard of primary teachers are issues that need to be addressed right away. India can empower its future workforce to meet the challenges of globalization by raising the standard of basic education. which a large monetary expenditure is necessary. Along with enhancing primary education. The Kothari Commission (1964–1966) suggested allocating 6% of GDP to education spending but still not implemented.

CONCLUSION

Indian society still places a high value on caste. Lower castes' relative growth is either constant or in decline. For Indian policymakers, the poor educational outcomes for the population of lower castes are probably the most concerning factor. This indicates that the condition won't go better any time soon. The expense of education is rising due to privatisation, while employers' need for skills is always rising. In order to illustrate some of the major problems with the Indian version of inequality, which has its roots in social structure, this research work has combined different representative datasets. Caste disparity is being masked by economic inequality. On average, just the positive discrimination measures don't work. As the degree of wealth and consumption inequality within lower castes has increased. The real engine of India's growth is its human capital. We must commit sufficient resources to India's growth if we wish to see it join the club of developed nations. India must take extra effort to vigorously promote education if it wishes to increase economic growth over the long term. Therefore, it is imperative that the government set aside a sizable number of resources for this purpose. We must come up with alternate strategies and methods outside of market forces if we are to leave education and skill development to market forces. The political class in India may believe it is beneficial to save some resources by limiting funding for education but going down this road alone won't get us anywhere near economic growth. Growing income inequality may cause social unrest, political instability, and societal upheaval, all of which would slow down the pace of economic progress.

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Impact of Internet Literacy and Bank Accounts on NFS Payments in India: A cross-sectional Econometric Analysis

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August **2022**

ABSTRACT

National Payments Corporation of India (NPCI), an umbrella organization for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the forage of the Payment and Settlement Systems Act, 2007, for creating a durable Payment & Settlement Infrastructure in India. National Financial Switch (NFS) is the largest network of shared Automated Teller Machines (ATMs) in India making interoperable cash withdrawal, card to card funds transfer and interoperable cash deposit transactions among other value-added services possible in the country. In this research paper, I have built a multiple regression model to show how the states which have higher proportion of people who has used internet once and has bank accounts, has the highest number of transactions taken place electronically which is measured by the volume in millions of NFS App. This study provides the cross-sectional econometric analysis on two factors of NFS.

INTRODUCTION

India is one of the fastest growing economies of the world. A BCG report says, "Cash will no longer be king." It added that the digital payments landscape in India has developed significantly over the past decade, and we hope digital payments market to more than triple to US$10 trillion by 2026. We expect that 2 out of every 3 payment transactions would be digitized by 2026: thus, inverting the digital (non-cash) contribution to payments by value from approximately 40% today to about 65%.

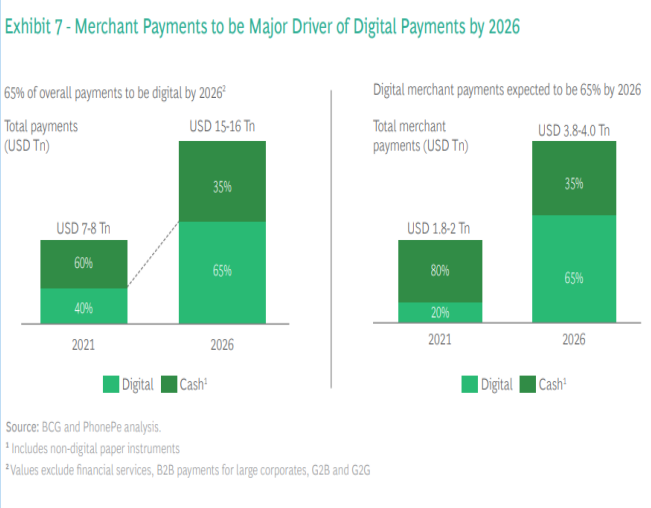


Figure 1

Under the *Infrastructure push and set up of a financial services marketplace driving growth in underpenetrated regions* section, an extrapolation of the India transaction trends from PhonePe Pulse data tells us that digital payments penetration in the nation was much lower in 2018, especially in the North, North-East, and Central states. However, over the past three years since then, penetration has significantly increased, albeit unevenly, as seen in Figure 2.

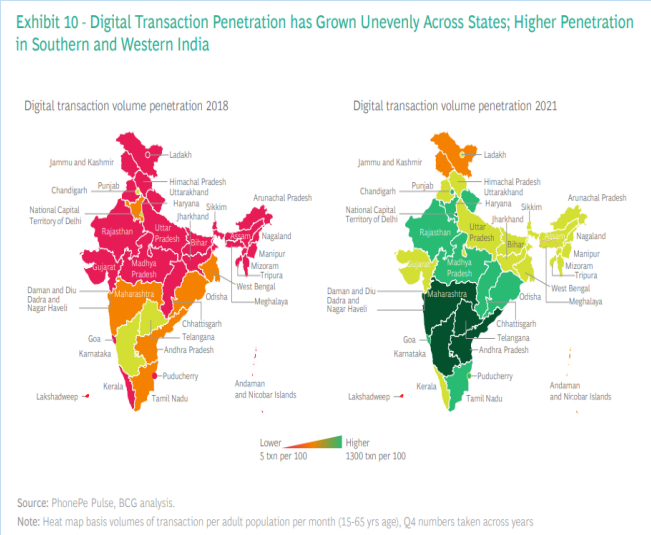


Figure 2

A report of Statista says that in January 2022, there were over 940 million active debit cards in India. This number was much higher than the number of credit cards, which amounted to around 70 million that same month. Unlike the value of transactions, the number of debit cards remained stable throughout the coronavirus pandemic. This means around 2 out of every 3 people in India has a debit card. But the distribution of debit cards is not well distributed. Some persons have more than one debit card. In a report RBI showed process and forms in which cash is withdraw from ATM.

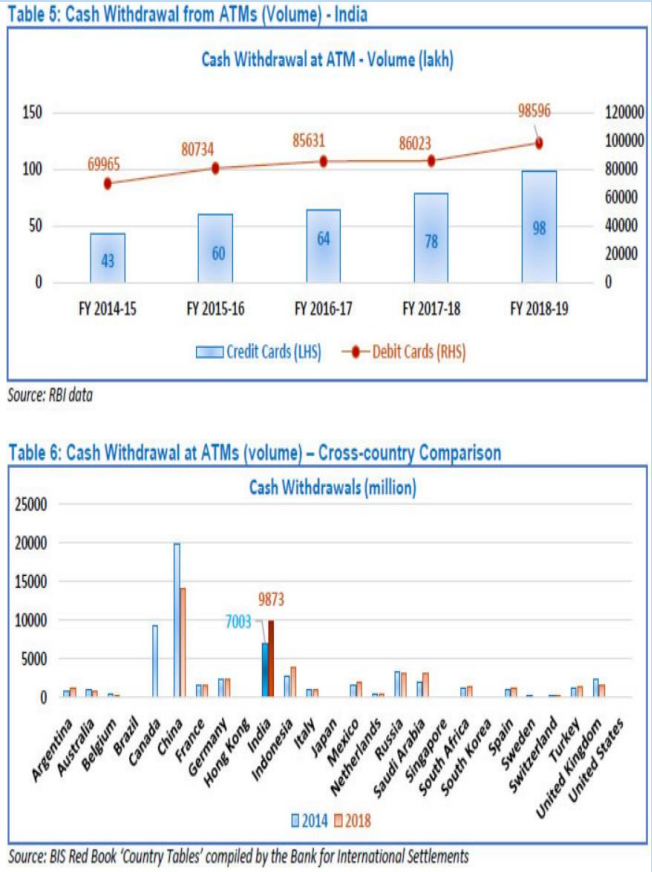


Figure 3

From the same report, we can see that cards have the maximum share in e-commerce payment method. The use of cards can be depended upon various factors.

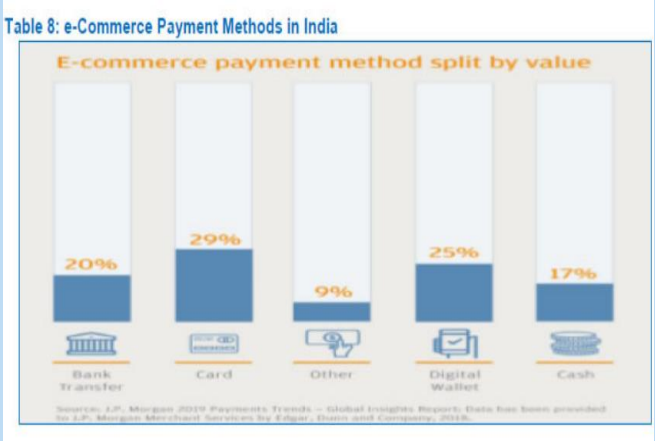


Figure 4

Here, we are curious to find out the role of internet literacy and bank accounts per capita in the use of cards.

Pradhan Mantri Jan-Dhan Yojana (PMJDY) is National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner.

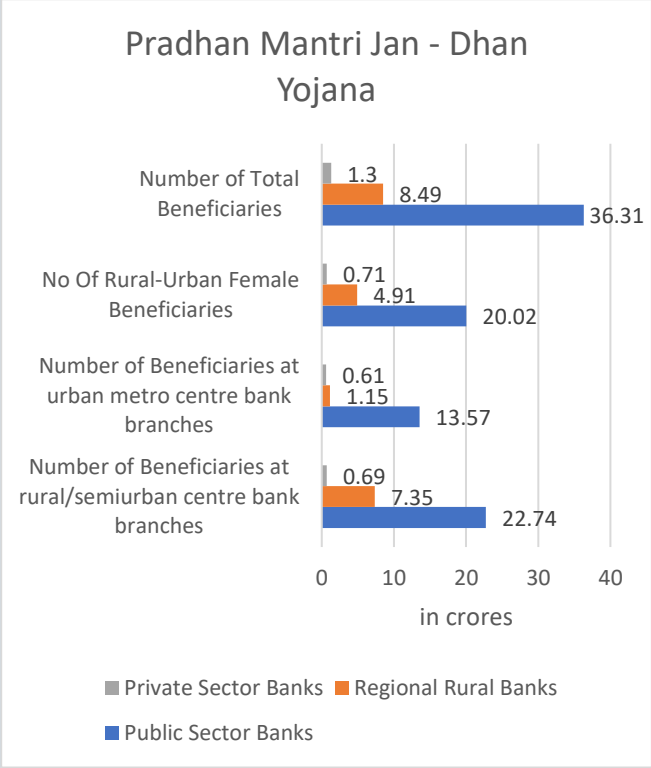


Figure 5, Source: PMJDY

Impact of PMJDY

1. PMJDY has been the foundation pillar for people-centric economic initiatives. Whether it is direct benefit transfers, COVID-19 financial assistance, PM-KISAN, increased wages under MGNREGA, life and health insurance cover, the first step of all these initiatives is to provide every adult with a bank account, which PMJDY has nearly finished.

2. One in 2 accounts opened between Mar'14 to Mar'20 was a PMJDY account. Within 10 days of nationwide lockdown more than about 20 crore women PMJDY accounts were credited with ex-gratia.

3. Jan-Dhan provides an avenue to the poor for bringing their savings into the formal financial system, an avenue to remit money to their families in villages besides taking them out of the clutches of the usurious money lenders. PMJDY has brought the unbanked into the banking system, expanded the financial architecture of India and brought financial inclusion to almost every adult.

4. In today's COVID-19 times, we have witnessed the remarkable swiftness and seamlessness with which Direct Benefit Transfer (DBTs) have empowered and provided financial security to the vulnerable sections of society. An important aspect is that DBTs via PM Jan Dhan accounts have ensured every rupee reaches its intended beneficiary and preventing systemic leakage.

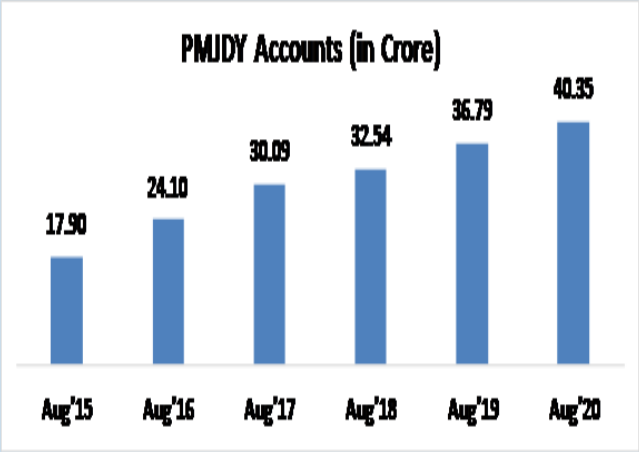
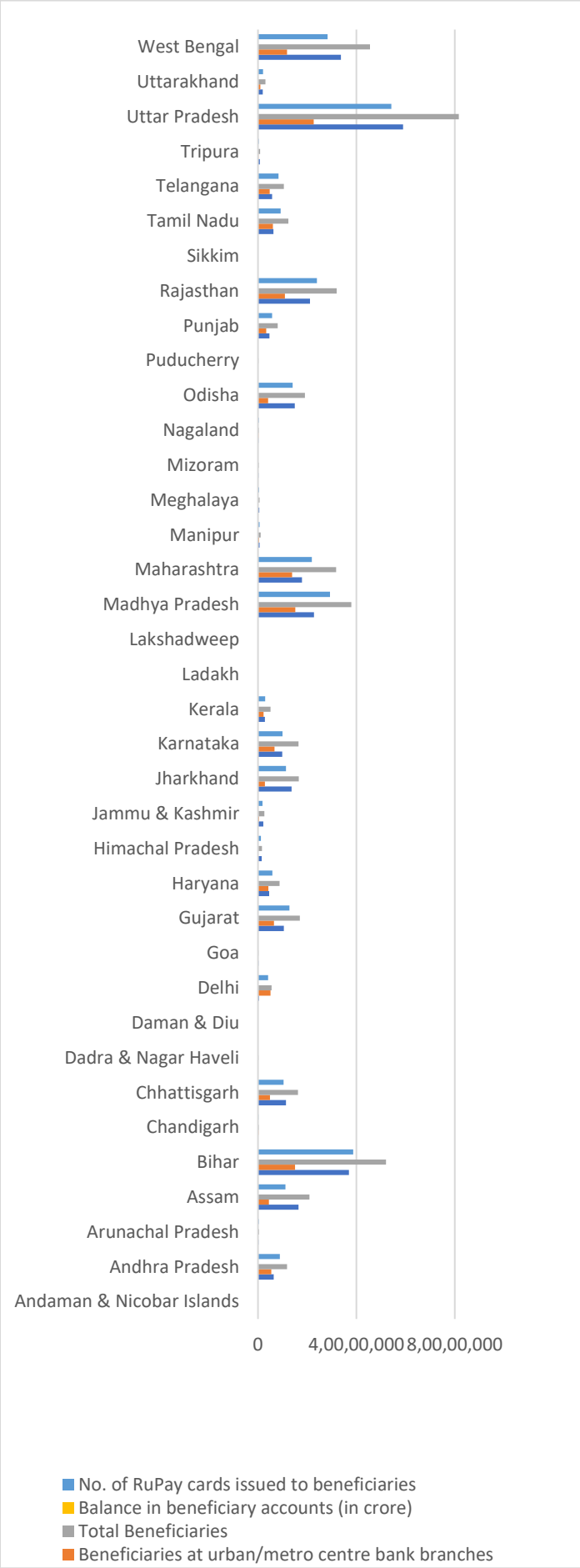


Figure 6, Source: PMJDY

One of the shocking limitations and issues with Jan Dhan Yojana is that it has increased accounts but not transactions.

Though, building on what was already a large base of 53 percent of people over the age of 15 having a bank account (469 million) (World Bank 2014), this program led to the opening of 260 million accounts in just over two years. While there is some uncertainty around how many of these accounts were for first-time account holders, a survey conducted in mid-2015 indicates adult bank account ownership increased to 63 percent (InterMedia 2016). According to PMJDY, in 19 of 28 states all households have a bank account and in the remaining nine states over 99 percent of households have a bank account. This is consistent with an independent, largescale, and nationally representative survey that shows 99 percent of households have at least one member with a bank account (Bhattacharya 2016).



Financial Literacy is defined as a combination of financial awareness, knowledge, skills, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being (OECD, 2012). **Financial Education**, on the other hand is defined as the process by which financial consumers/investors improve their understanding of financial products, concepts, and risks and through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help and to take other effective actions to improve their financial well-being" (OECD, 2005).

Our Nation has made tremendous progress in bringing its citizens into the formal financial system over the last many years. Since India's first NSFE was released in 2013, there have been many developments in the financial inclusion scenario of the country. During this period, important financial inclusion initiatives by Government of India such as Pradhan Mantri Jan-Dhan Yojana (PMJDY), social security schemes viz. Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana (APY), Pradhan Mantri Kisan Maan Dhan Yojana (PM-KMY), Pradhan Mantri Shram Yogi Maan Dhan Yojana (PM-SYM) and Pradhan Mantri Mudra Yojana (PMMY) have changed the financial inclusion landscape. These initiatives are not only bringing the excluded sections into the financial mainstream but also ensuring access to various financial services such as Basic Savings Bank Deposit Account (BSBDA), need based credit, remittance

facility, insurance, and pension to the excluded sections.

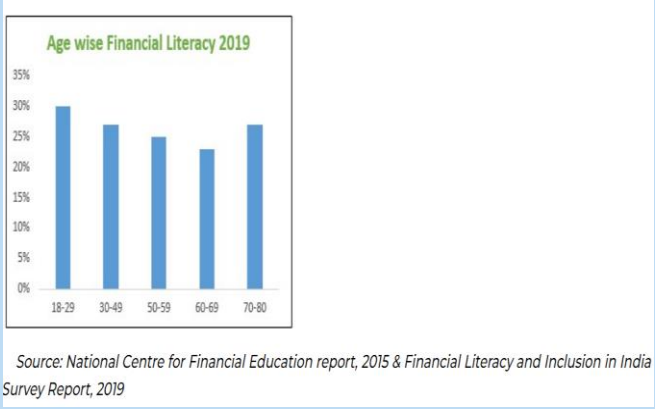


Figure 7

Since, we don't have valid data on financial literacy, we assume that internet literacy is correlated to financial literacy and will provide the required insights for our analysis.

The NITI Aayog Report titled "Strategy for New India @75" inter-alia indicates that India needs to remove the Digital Divide by 2022-23. In this regard, it is stated that Skill development and creating skilled talent is a significant mission to ensure that the growing digital economy of India is provided with the trained and skilled manpower that Industry requires. To further aid digital adoption, the Ministry has focused on digital literacy for citizens since 2014, across the economy, especially in rural areas.

Ministry of Electronics & Information Technology (MeitY) has taken the following initiatives to bridge the digital divide in the country:

i. In the years 2014 to 2016, two Schemes titled "National Digital Literacy Mission" (NDLM) and "Digital Saksharta Abhiyan" (DISHA) were implemented by the Government with a target to train 52.50 lakh candidates in digital literacy across the country. Under these two schemes, a total of 53.67 lakh beneficiaries were certified.

ii. In 2017, a scheme titled "Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)" was approved by Union Cabinet to usher in digital literacy in rural India by covering 6 crore rural households (one person per household). So far, a total of around 5.78 crore candidates have been enrolled and 4.90 crore have been trained, out of which around 3.62 crore candidates have been certified under this scheme.

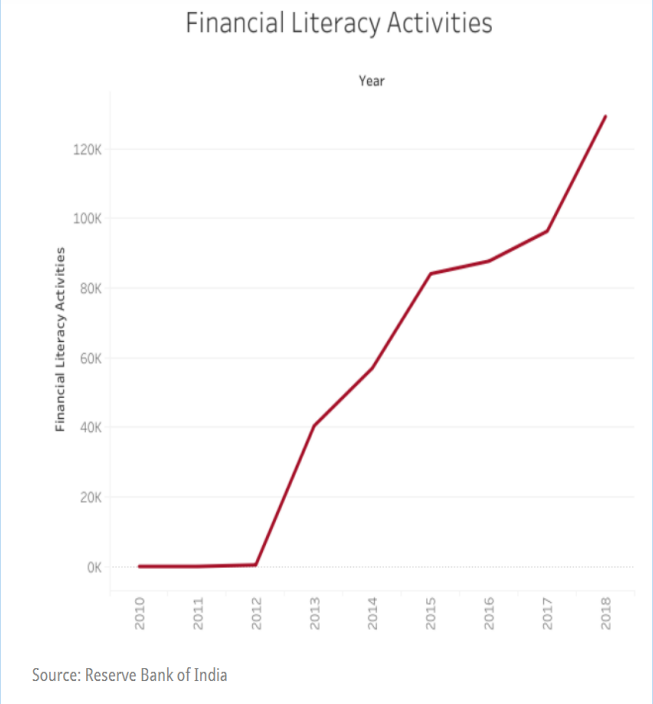


Figure 8

LITERATURE REVIEW

Renu Singh and Garima Malik: In their research on **Impact of Digitalization on Indian Rural Banking Customer: With Reference to Payment System,** they doubt that Digital India campaign faces several issues, and among them the two biggest

issues are: First, the rural infrastructure of India is severely back dated, and even the basic forms of internet are absent in most part of rural India, which is the basic necessity of digital banking. Second, almost 65 per cent of mobile users' population in India is smartphone users, and most of the users from rural areas even lack the basic knowledge of operating smartphones and even ATMs, and still to this day they depend only on basic banking instruments such as cheques, withdrawal, and so on.

Pallavi Gupta and Bharti Singh: In their research on **Role of Literacy Level in Financial Inclusion in India: Empirical Evidence**, they concluded that large dispersions in the correlation between the Financial Inclusion Index and literacy rate in different states indicates that financial exclusion in India is not mainly due to the lower literacy rates. To achieve financial inclusion the government should emphasize on the behavioral factors rather than considering an improvement in literacy rate as a major determinant. 275 Journal of Economics, Business and Management, Vol. 1, No. 3, August 2013 Models that do not consider literacy level as a prerequisite to use financial services like, Biometric ATM, Mobile Based Payment System, Smart Card, and Telecentres can be useful to achieve the goal of financial inclusion in India.

DEFINITION

1. Internet Literacy is the proportion of people who have ever used the internet in a particular place.
2. Bank Account per Capita is the number of Bank account holders divided by the population of the region.
3. NFS App. Volume is the number in millions which includes approved ATM & card plus PIN transactions on micro-ATMs (financial and non-financial) routed through NFS. It does not include NFS cash deposit transactions.
4. NFS App. Volume per capita is the NFS App. Volume divided by the population of the region.

DATA SOURCE AND METHODOLOGY

I have used secondary sources of data across various states of India. They are following:

1. Internet Literacy - National Family Health Survey 5 Report 2019-20
2. Number of Bank Account - Basic Statistical Returns of Scheduled Commercial Banks in India, RBI (2018)
3. Population of India - Census of India, 2011
4. Bank Account per Capita - Own calculations
5. NFS App. Volume – NCPI District Wise Statistics, 2021
6. NFS App. Volume per capita - Own calculations

Data Description:

Variable	Definition of Variables	Data Source
INTLIT	Internet Literacy	National Family Health Survey 5 Report 2019-20
BNK	Number of Bank Account	Basic Statistical Returns of Scheduled Commercial Banks in India, RBI (2018)
POP	Population of India	Census of India, 2011
BNKPC	Bank Account per Capita	BNK/POP
NFS	NFS App. Volume	NCPI District Wise Statistics, 2021
NFSPC	NFS App. Volume per capita	NFS/POP

Table 1

While doing the regression, I have assumed that difference in the time of data will not affect our model as they are measured in percentage and only population data is pre-pandemic.

Model

We are using building a multiple regression model using R in order to find the relationship between NFS App. Volume per capita with internet literacy and bank account per capita.

The regression model to be studied takes NFS App. Volume per capita as the dependent variable and internet literacy and bank account per capita as independent variables.

The functional form specification is displayed in equation (1) below:

$NFSPC_t = f\ (BNKPC_t, INTLIT_t)$ – (1)

HYPOTHESIS TESTING

Null Hypothesis, H_0: $R^2 = 0$

We assume there is no relationship in NFSPC with INTLIT and BNKPC.

Alternate Hypothesis, H_a: $R^2 \neq 0$

We assume there is a relationship amongst our dependent and interdependent variables.

Residuals:

Min	1Q	Median	3Q	Max
-0.086840	-0.038563	-0.002841	0.017388	0.184741

Table 2

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	-0.1458915	-0.1458915	-3.241	0.00315**
INTLIT	0.0026691	0.0009237	2.890	0.00752**
BNKPC	0.2029749	0.0199632	10.167	0.00000000993***

Table 3

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error	0.06013 on 27 degrees of freedom
Multiple R-squared	0.872
Adjusted R-squared	0.8625
F-statistic	91.93 on 2 and 27 degrees of freedom
p-value	0.0000000000089

Table 4

Since, p-value is less than level of significance, we can reject null hypothesis.

Hence, multiple regression model:

$NFSPC_t$ = -0.1458915 + 0.0026691 $INTLIT_t$ + 0.2029749 $BNKPC_t$

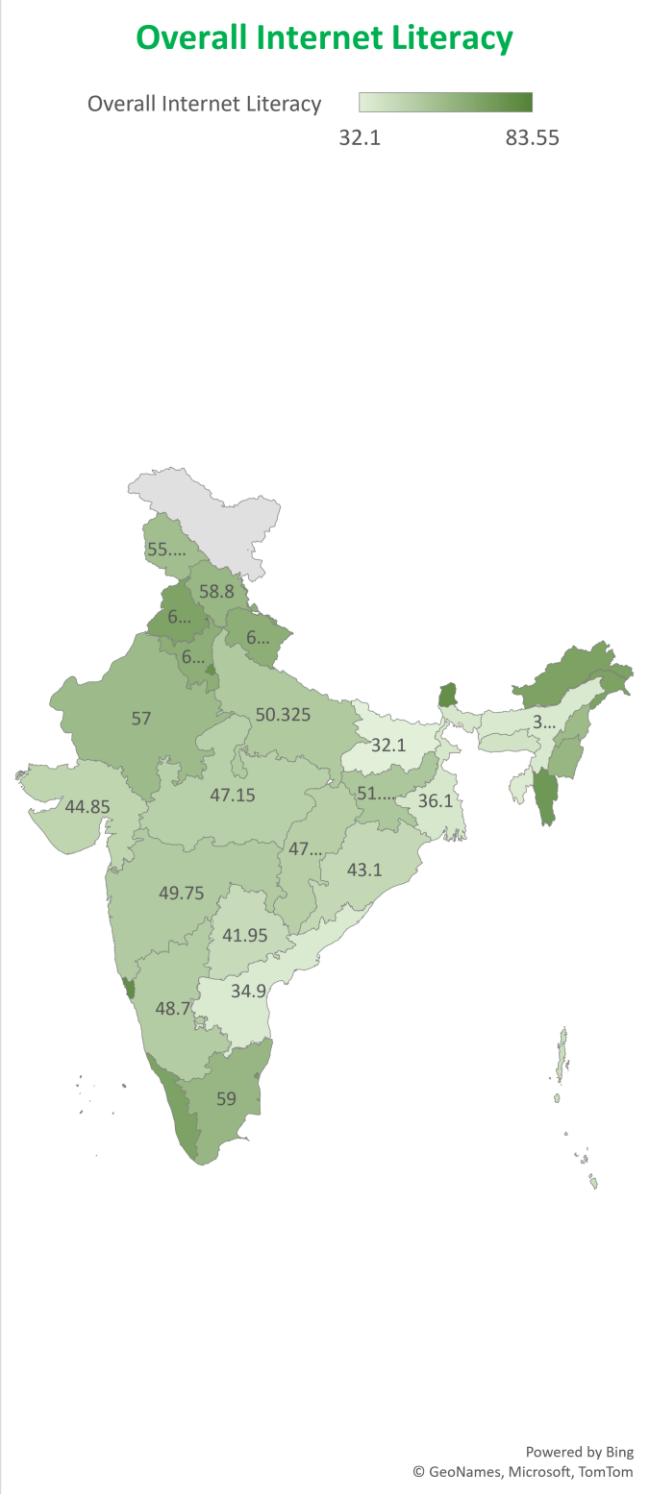
Std. Dev: -0.1458915 0.0009237 0.0199632

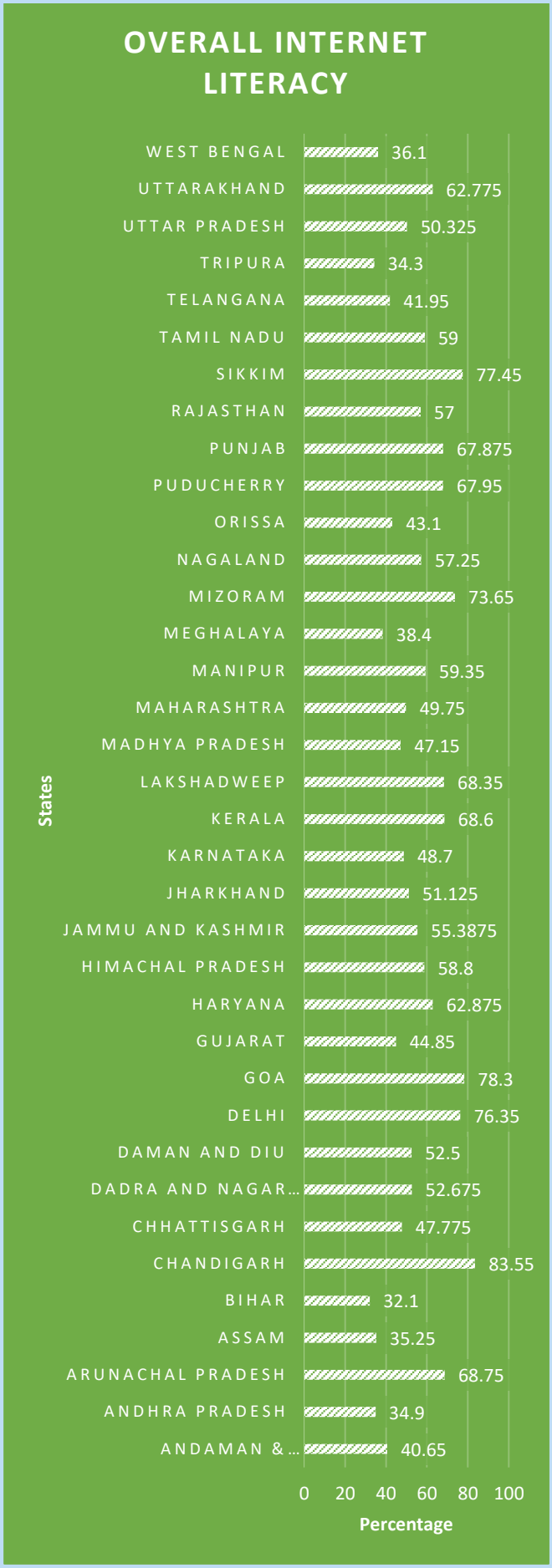
t-value: -3.241 2.890 10.167

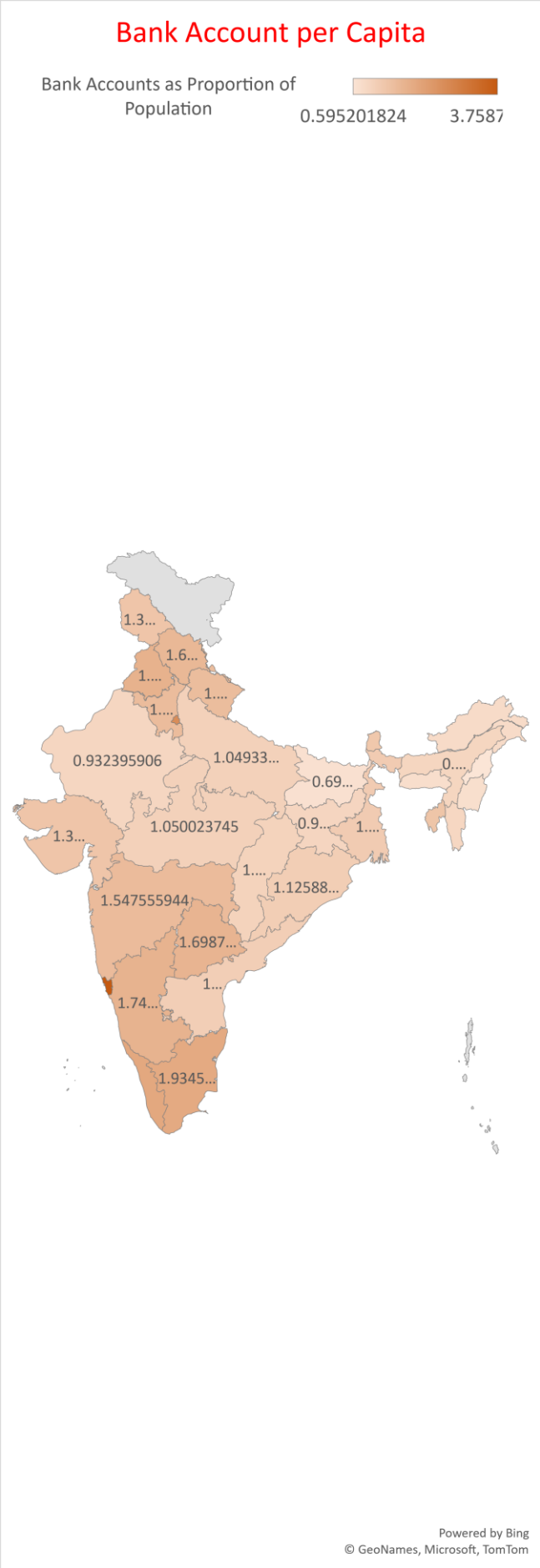
	DF	Sum Sq	Mean Sq	F value	Pr(>F)
INTLIT	1	0.2910	0.2910	80.49	0.000000138***
BNKPC	1	0.3737	0.3737	103.38	0.00000000993***
Residuals	27	0.0976	0.0036		

Table 5

DATA VISUALIZATION






Bank Account per Capita
Bank Accounts as Proportion of Population
0.595201824
3.7587
1.3...
1.6...
1....
1....
1....
0.932395906
1.04933...
0.69...
0....
1.3...
1.050023745
0.9...
1....
1....
1.12588...
1.547555944
1.6987...
1...
1.74...
1.9345...
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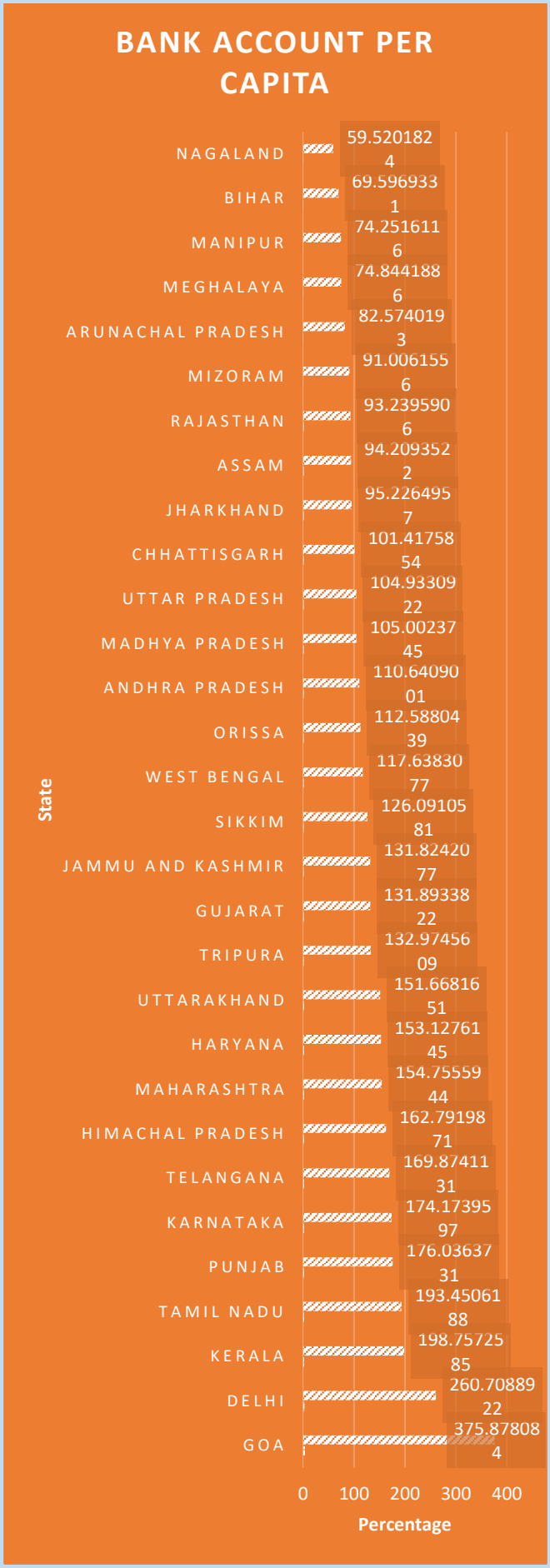
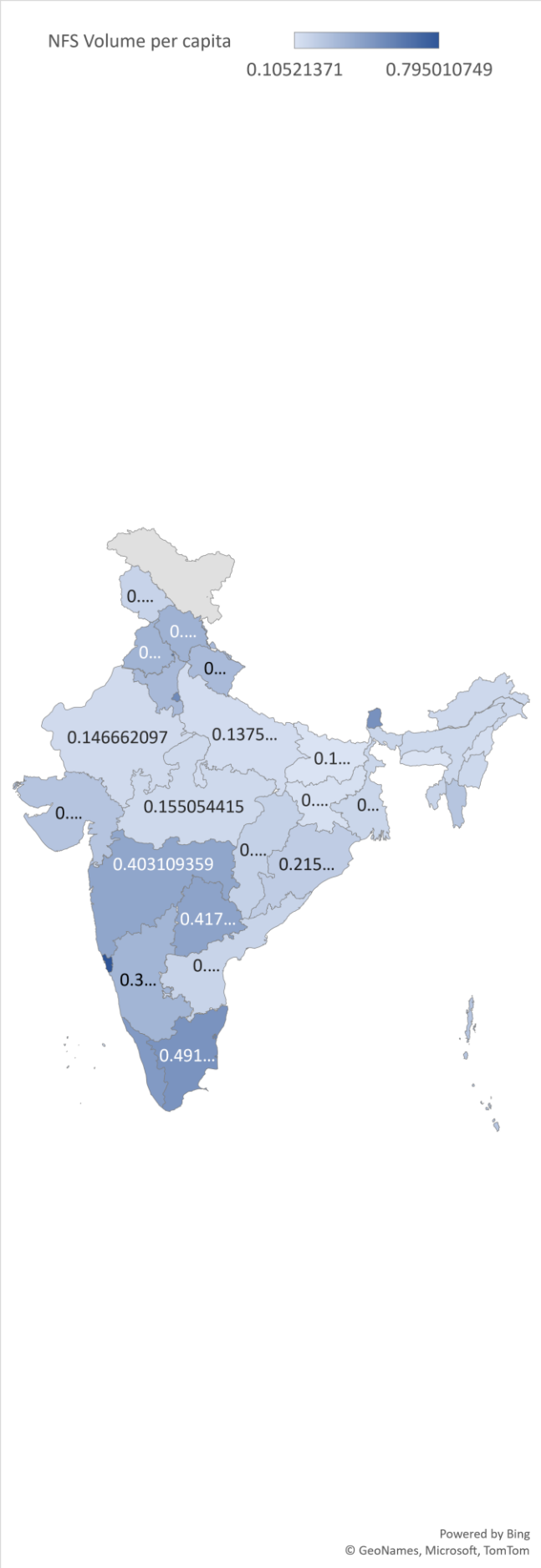

BANK ACCOUNT PER CAPITA
State
NAGALAND 59.5201824
BIHAR 69.5969331
MANIPUR 74.2516116
MEGHALAYA 74.8441886
ARUNACHAL PRADESH 82.5740193
MIZORAM 91.0061556
RAJASTHAN 93.2395906
ASSAM 94.2093522
JHARKHAND 95.2264957
CHHATTISGARH 101.4175854
UTTAR PRADESH 104.9330922
MADHYA PRADESH 105.0023745
ANDHRA PRADESH 110.6409001
ORISSA 112.5880439
WEST BENGAL 117.6383077
SIKKIM 126.0910581
JAMMU AND KASHMIR 131.8242077
GUJARAT 131.8933822
TRIPURA 132.9745609
UTTARAKHAND 151.6681651
HARYANA 153.1276145
MAHARASHTRA 154.7555944
HIMACHAL PRADESH 162.7919871
TELANGANA 169.8741131
KARNATAKA 174.1739597
PUNJAB 176.0363731
TAMIL NADU 193.4506188
KERALA 198.7572585
DELHI 260.7088922
GOA 375.878084
0
100
200
300
400
Percentage


NFS Volume per capita
0.10521371
0.795010749
0....
0....
0...
0...
0.146662097
0.1375...
0.1...
0....
0.155054415
0....
0...
0....
0.403109359
0.215...
0.417...
0....
0.3...
0.491...
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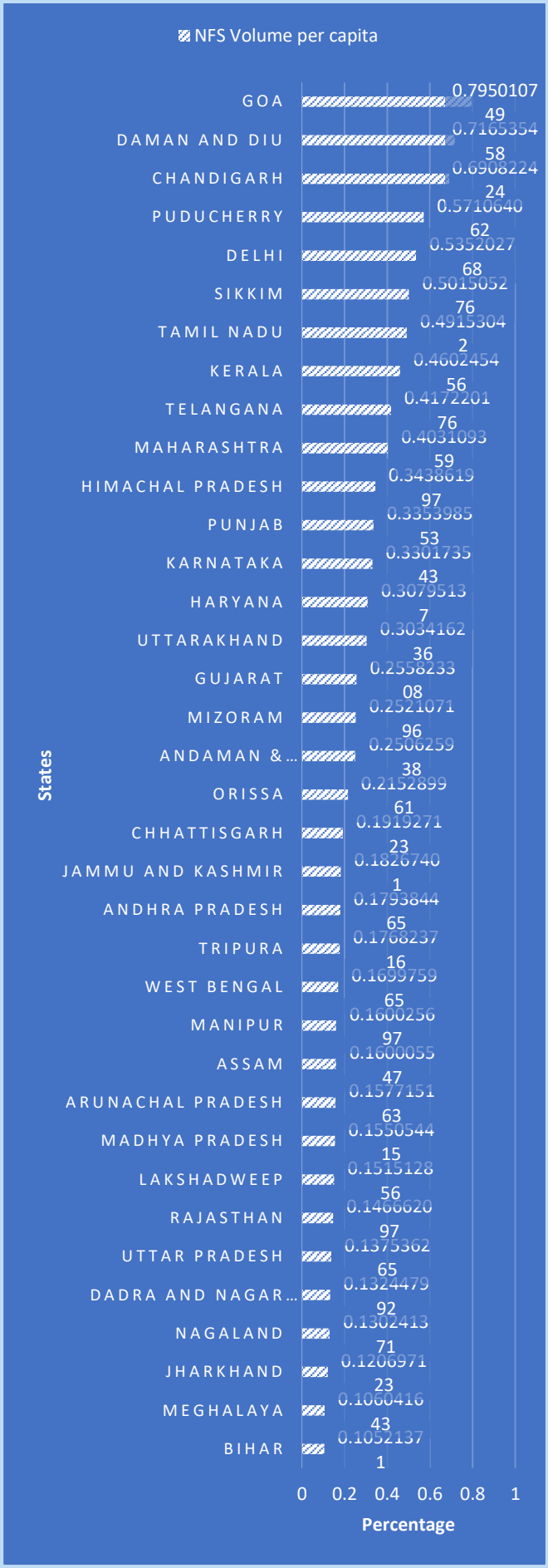
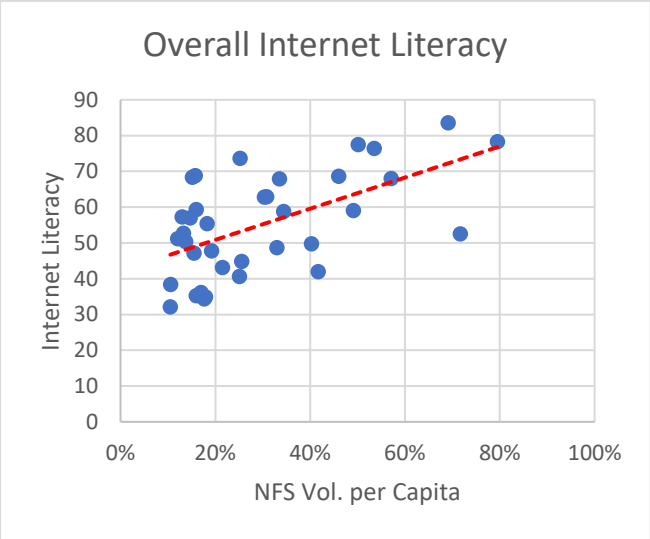
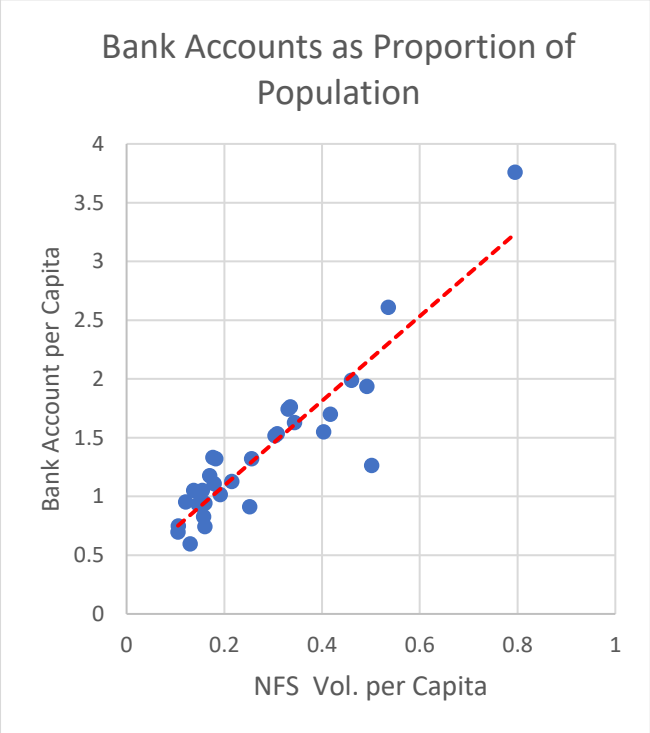
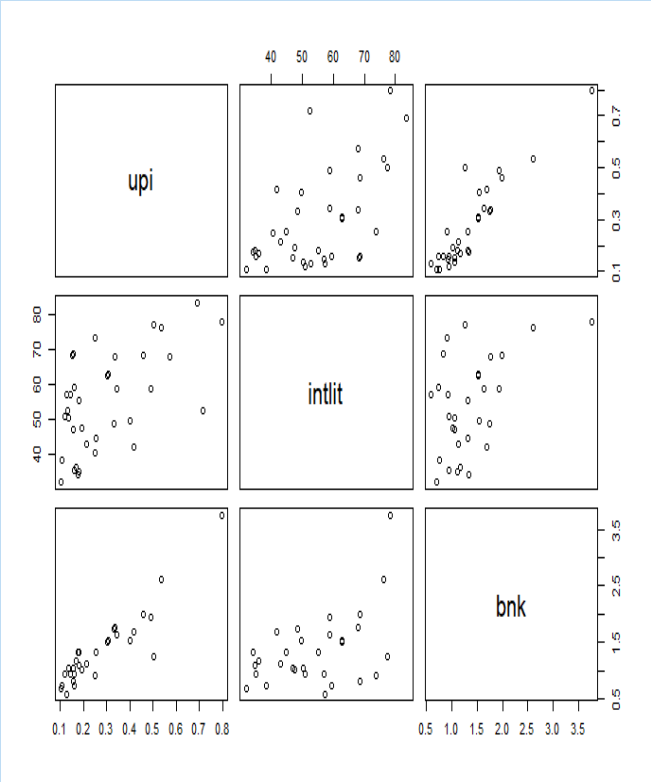

NFS Volume per capita
States
GOA 0.7950107
DAMAN AND DIU 0.7165354
CHANDIGARH 0.6908224
PUDUCHERRY 0.5710640
DELHI 0.5352627
SIKKIM 0.5015052
TAMIL NADU 0.4915304
KERALA 0.4602454
TELANGANA 0.4172201
MAHARASHTRA 0.4031093
HIMACHAL PRADESH 0.3438619
PUNJAB 0.3353985
KARNATAKA 0.3301735
HARYANA 0.3079513
UTTARAKHAND 0.3054162
GUJARAT 0.2558233
MIZORAM 0.2521071
ANDAMAN &... 0.2506259
ORISSA 0.2152899
CHHATTISGARH 0.1919271
JAMMU AND KASHMIR 0.1826740
ANDHRA PRADESH 0.1793844
TRIPURA 0.1768237
WEST BENGAL 0.1699759
MANIPUR 0.1600256
ASSAM 0.1600055
ARUNACHAL PRADESH 0.1577151
MADHYA PRADESH 0.1550544
LAKSHADWEEP 0.1515128
RAJASTHAN 0.1466620
UTTAR PRADESH 0.1375362
DADRA AND NAGAR... 0.1324479
NAGALAND 0.1302413
JHARKHAND 0.1206971
MEGHALAYA 0.1060416
BIHAR 0.1052137
0 0.2 0.4 0.6 0.8 1
Percentage

From a similar simple regression model using OLS method, we can find that how NFS Volume per Capita is related with Overall Internet Literacy and share of bank accounts. The straight line shows the sample regression line in the scatterplot between NFS Volumes and the rest two explanatory variables. (Kindly note that here, the NFS Volume is plotted on x-axis for better visuals.)





From R:



CONCLUSION

From our analysis, we can conclude that the states which have higher proportion of people who has used internet once and has bank accounts, has the highest number of National Financial Switch Volume, meaning higher number of electronic transactions. The adjusted coefficient of determination, or R^2, has the value of 0.8625, which means our sample regression line fits good. Government should focus to provide vocational training of internet. Though after some initiatives like Jan Dhan Yojana and linking Aadhar Card with Bank Account, has substantially increased the proportion of Indians having bank accounts, yet we have a far long way to cover in order to become cashless India.

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