A study in impact of UPI in Consumer Credit & Online Investment

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Abstract: This study seeks to investigate the relationship between Unified Payments Interface (UPI) with consumer credit and investment in the Indian economic setting, establishing whether a positive relationship occurs and how Unified Payments Interface affects the customer's consumer credit and online investments. Surveying with the working professionals of society irrespective of gender and age through a well-structured survey, the study carries out primary data through a quantitative research design that uses descriptive method. The analysis shows that the UPI, enjoys a comparative advantage over its competitor and therefore the likelihood that it will capture a larger market share is high as it has a cost-saving mechanism, and the facilitation of online and offline transfers is made easy. Moreover, the effectiveness and the rate of UPI payments and their possible role in financial inclusion in India are analyzed to consider a complete picture of its current functioning and potential in credit and investment options. This research validates the opportunity digitalization which has transformed the terrain of banking practices. The study summarizes that using UPI does not only correspond with the manifestations of global financial market digitalization, but also offers a new framework within which the future of the banking transaction could take shape.

Keywords: UPI, Consumer Credit, Online Investment, UPI Credit, Wilks' Lambda.

1   Introduction

UPI (Unified Payment Interface) is a platform which has been transforming India's Payment ecosystem since 2016. This paper is aimed at exploring how UPI is impacting, the Consumer Credit and Online Investment in India. The RBI advanced a vision for an ideal payment system that had several guidelines on this kind of perfect payment system which include buying out various parameters relating openly to the ideal payments system with the advent of a digital transaction economy. This way, the UPI sowed a fruitful vision of its future that matches many criteria pronounced by the RBI payment system perception such as safe, efficient, inter-operative, and authorized digital payments. Researchers used a detailed questionnaire that included structured & well-developed questionnaires to collect data on various target variables significant for respective study objectives.

A Survey is done among the target sample of working professionals. To capture the varied experiences and patterns of UPI adoption, the research incorporates a wide range of geographic locations and includes participants from different income levels and ages. The targeted respondents are from the working professions who are most likely to take credits and make investments. The initiative by the Indian government has accelerated the competition and growth in the banking industry, showcasing the essential need to understand how such nation-wide programs reshaping banking behaviours and services accessibility are (Manoj Goyal, 2022). India's readiness to adopt new financial technologies indicates a crucial need to understand the public's reception to UPI and its influence on consumer credit and investment patterns.

The *consumer credit* is a type of personal loans that is borrowed to purchase goods and services. While any kind of personal money could be referred to as consumer credit, the word is usually applied to denote an unsecured amount of loans with small value. In finance, *credit card* is one of the consumers type of credit. *UPI Credit* is yet another consumer credit, the introduction of credit facilities within the UPI, which is a

revolutionary stride in the lending landscape, placing an additional layer of adaptability over the already formidable digital payment infrastructure controlled by the National Payments Corporation of India (NPCI). UPI enables financial institutions to pre-sanction a credit line to their customers, which in turn allows the users to borrow these credit lines to buy goods and services. _Online investment_ refers to the process of using online platforms to buy and sell financial instruments such as stocks, mutual funds, and more. UPI enables you to carry out transactions directly through your bank without having to enter card particulars again and again when you need to pay. With new lockdown's being implemented and the uncertainty that came with COVID-19, people need to have other sources of income. Persistent ambiguity regarding financial future was one of the reasons which resulted in a rise of the number of retail investors, said a _Benori Knowledge_ report – an agency that offers custom research and analytical solutions.

The key aim of the investigation is whether, indeed, UPI has it done enough at an individual level to the Consumer Credit and Online Investment. Therefore, the policy makers can develop future policies for the UPI using the corresponding findings of this study. This study is unique, as no other study is observed the linkage of UPI with Digital Banking Practices, through consumer credit and online Investment.

2   Review of Literature

(Bharath, 2023) The research studies the consumer preference of UPI in the city of Chennai. The research identifies no significant correlation between the respondents' educational qualifications and their usage of UPI services. It also uncovers a relationship between the age of users and the problems encountered with UPI, pointing to slower adoption among the elderly possibly due to awareness issues. Key challenges highlighted for wider UPI adoption include the need for better infrastructure, reliable internet, more UPI-enabled devices, and increased merchant acceptance.

Dr. N Rameshkumar (Nagaraj, 2023) provides a comprehensive assessment of the digital payment systems' evolution and their influence on the Indian financial landscape. He emphasis on the transition towards cashless transactions and the accessibility of services via online and mobile platform. The government's efforts through 'Digital India' and demonetization have instigated a shift toward digitalization, though initially met with mixed reactions. The paper discusses how digital payments can combat the black economy by enabling transaction traceability.

Investment through internet-based channel the is available in multitude of numbers also but still (Ananta Dutta, 2023) articles support each other and pointed out that what are one's advantage as they can be part time copies or traders. With online investing, we can keep track of your portfolio from the privacy of your house or a laptop via Wi-Fi connection in virtually any part of the world. This convenience nullifies the requirements of traveling to establish banks or brokerage centres. More power is given to the choosing technique when online investing. Alternatively, based on one's personal goals, risk aversion and financial motivations your property or even properties can currently be investigated choices for you, picked to manage them. This is good when reacting to 'market news', 'timely portfolio changes', and considering short-term opportunities emerging from the trades as well.

(Mahesh A., 2022)The article focuses on the transition of India to a Cashless / paper currency less economy from a cash-based economy, facilitated by the adoption of smartphones and the internet. The Unified Payment Interface (UPI) has experienced significant growth as a digital payment option in India, and the study aims to evaluate its role in financial inclusion. The article provides a systematic review of the literature on digital payments, with a specific focus on the UPI in India. It also studies the influence of UPI in financial inclusion of India. The study highlights the need for further research in this area and offers valuable insights for policymakers and stakeholders.

(Manoj Goyal, 2022) The article investigates the perception and attitude of consumers towards the Unified Payment Interface (UPI) in India. The internet became popular among the general population in 1994, leading to the development of security protocols and the emergence of e-commerce as a platform to purchase requirements on the net using secure connectivity and online payment systems. Customers now expect to be able to conduct financial transactions whenever and wherever they please, leading banks to provide financial services electronically. The NPCI introduced the UPI, which had a significant impact on the Indian economy and led to a rapid shift in payment systems towards mobile and card payments. The study also develops a novel model for assessing UPI user uptake, incorporating constructs such as "Relative Advantage," "Add-on Services," and "Promotional Benefits".

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(Constantin Johnen, 2021)The paper covers the benefits and disadvantages of digital credit considered in terms of empirical evidence from Kenya. It examines how the online credit facilities can be accessed through non-formal market way to create opportunities for those that are seldom able to obtain loans by conventional formal credit. Nevertheless, the research shows that these authors also emphasize important difficulties which include higher default and much more rigid blacklisting in digital credit markets vis-a-vis traditional credit markets. The results point to the fact that digital credit had not actually represented an effective passageway on mainstream credit and give rise to serious concerns about its stability in the future.

A Study (Carlsson Hanna, 2017) seeks to understand the state of research of Digitization on 'personal financial behaviour and management' through a bibliometric analysis and a systematic review. The study concludes that more studies need to be done regarding the effect that such digital society changes have on consumer credit conditions. It emphasizes the prevalent overlook of commercial and systems perspectives view in current knowledge, thus requiring further investigation of digital technology influence on personal financial behaviours such as vulnerable children and adolescents. In addition, it focuses on credit card management and use that is prevalent in several consumer groups as well as the implications of growing trends arising from digital commerce hence calling for a more elusive resolution to the negativities and credit control within a digital framework mostly due to risk-driven barriers experienced by users.

3   Research Methodology

This study uses descriptive method, the objectives is to understand trends in users concerning UPI with Consumer Credit and Investment. The survey runs for understanding the lesser-known aspects of UPI's impact. The survey also took consideration of several demographics and other variables that were considered to have an impact on the choices of users.

The approach of study is based on quantitative research. It is a type of data collection and analysis gathering numerical information. It depends on certain tools like surveys, polls or questionnaires as instruments which allow a systematic measurable data recording. Statistical or computational methods are applied to this data that further yields inferences about a population or an occurrence. The primary quantitative research methods shall be those that directly gather information rather than relying on collated information. Secondary research, for instance, relies on data from a group of individuals or customers to yield numerical results and therefore provide secondary research is another form of research methodology which entails using the existing data.

3.1   Scope of the Study

The study involves insights about the impact of UPI in consumer credit and investment. The study encompasses a diversified range of geographic locations to capture variations in UPI adoption and digital banking practices. Participants from various income levels, including age and occupation, are included to ensure a wider view of UPI's impact. The primary data is collected only from the Users of UPI, individuals who have or had used UPI services.

3.2   Research Design

The primary source of data for this study is from the survey that identifies itself with the objective. This survey was generated using Google Forms and distributed via email and LinkedIn. 120 people participated in the poll between November 20, 2023, and January 20, 2024.. The survey was meticulously constructed with a balanced assortment of Likert scale questions, binary-response queries, multiple-choice items, and open-ended questions to elicit nuanced insights. A 'convenience' and 'snowball' sampling techniques were employed to ensure representation across various user demographics and usage intensities. The statistical test for the hypothesis is run in SPSS software for Wilks' Lambda test that will be used for this study.

4   Analysis

In this research, the scholar has demonstrated an interest in developing this new area of banking services. There is little practical work performed on UPI. Theoretical studies assess and determine UPI's ability to draw a bigger market through population (S. Gupta, 2020). Research on UPI reveals that UPI-anchored services remain in growing stage, without any transaction fee, thus cost-saving for smartphone users (R.B. Kakadel, 2017). In a different research study, UPI immediately enables fund transfers both online and offline without having to input complex details of the recipients' bank account (S. Mahapatra, 2017).

UPI has driven the exponential growth in Digital Payments that suggest the financial inclusion the UPI provide and wider prospects of Digitization of Indian economy. Digital payments in India are highly prospect. As of October 2021, the country's figures contained by mobile connections was approximately 1.18 billion as well and with around 700 million internet users, and about 600 million for smartphones (2023). These numbers have grown considerably from quarter to quarter. India held the number in world with on about 25.5 billion real-time payment transactions, a top when it comes the frequency of its operations, back in 2020.

[*FIGURE 1: VOLUMES OF UPI AND TOTAL DIGITAL PAYMENTS*]

.In the above Figure 4, we see that UPI has been a major driver in the digital payments space from 2017-18 to 2022-23. The growth rate of UPI transactions has exceeded that of total digital payments year-on-year, highlighting not only a rapid adoption but also a sustained preference for the UPI platform among users. Over the years, while the growth rate has naturally decreased as the volume increases, UPI transactions have continued to hold a significant share and exhibit strong growth within the digital payments ecosystem.

4.1   Survey Analysis

The survey on Unified Payment Interface (UPI) aims to assess the impact of UPI on Consumer Credit and Investment, gather insights to identify areas for improvement, and understand the benefits of UPI. It includes questions about the duration of UPI usage, primary reasons for using UPI, frequency of use, preferred payment mode, experiences and inconveniences faced, and impact on banking practices.

The responses from 120 working professionals delves into aspects such as the influence of UPI on bank branch visits, factors influencing the decision to use UPI, its influence on online investments and credit management, security in comparison to other digital payment methods, potential to replace traditional banking practices, overall impact on banking experiences, changes in the way users interact with banks, factors contributing to continued use of UPI, and suggestions for UPI improvement. The hypothesis used for this study is tested with Wilks' Lambda test.

4.2   Hypothesis Results:

The study seeks to investigate the relation of UPI with Consumer Credit and Investment. Following hypothesis was established,

Ho: There is not a significantly positive impact of UPI on Consumer Credit and Investment.
H1: There is a significantly positive impact of UPI on Consumer Credit and Investment.
The dependent variables (Consumer Credit and Investment) were regressed on predicting variable of UPI.

4.2.1   Multivariate Analysis of Variance of UPI to Consumer Credit and Investment

[*TABLE 1: MULTIVARIATE TEST*]

The test important for the study is Wilks' Lambda test, which reads as.
There was a statistically significant difference in impact of UPI on Consumer credit and Investment, $F_{(4,232)}$ = 7.058, $p < .001$; Wilk's Λ = 0.795, partial η^2 =.108. We have achieved a statistically significant result, and we continue with further tests. The p value is significantly small, thus we reject the null Hypothesis and accept that "UPI is positively correlated to Consumer Credit and Investment," under the observed statistical data.

[TABLE 2: TEST BETWEEN SUBJECT EFFECT]

To determine how the dependent variables differ for the independent variable, we need to look at the Tests of Between-Subjects Effects table above.

We can see from this table that usage of UPI has a statistically significant effect on both Investment (F (2, 117) = 12.567; $p < .05$; partial $\eta^2 = .177$) and Consumer Credit (F (2, 117) = 4.122; $p < .05$; partial $\eta^2 = .066$). The p-value is significantly lower than the .05 mark, thus we reject the null hypothesis and accept the alternate hypothesis i.e., The UPI has significantly positive impact on Consumer Credit and Investment.

[TABLE 3: MEAN VALUES FROM RESPONSES]

The table shows the mean difference between Investment and Consumer Credit.

The findings from this analysis indicate a significant reduction in the frequency of physical branch visits due to UPI, with most users reporting increased online banking transactions. Furthermore, most respondents have expressed confidence in UPI security for making investments. These insights from the study underscore UPI's role in fostering digital banking practices, promoting financial inclusion, and transforming behaviour in the banking sector. Additionally, the analysis highlights the areas where UPI has positively influenced user experiences and offers valuable data for future enhancements and accepting that UPI has significantly positive impact on Consumer credit and investment.

5   Conclusion

This study has contributed to earlier studies on Unified Payments Interface (UPI) is affecting the digital banking behaviours in Indian realities. Through this research, it has been found out that the perception of digital payment tools affects an individual's credit and investment behaviour. The analysis presents statistically meaningful evidence that the UPI is positively correlated with both Consumer Credit and Investment. From this applied multivariate analysis of variance, the utilization of UPI was a significant influence on these dependent variables. The Wilks Lambda test results ($F(4,232) = 7.058$, $p < .001$) provide evidence to reject the null hypothesis for UPI and positive correlation with Consumer Credit Investment in favour of alternate hypothesis that implies positive correlation with Consumer Credit and Investment.

Moreover, the data shows that there has been a significant shift in consumer behaviour as most of the respondent stated reduction down to arrivals have made Visa branches and increased online banking transactions due facilities convenience reliability security given by UPI. This trend is also underscored by the sustained high growth rate of UPI payments, which demonstrates its great value proposition and vital function driving this line towards digital transactions.

The paper can be advanced further by going deeper the study size and more determinants. The study can be done in various situations at varying economic cycles and reliability on the test, Informal sector and intervention of Government involve. It is also possible to consider behavioural aspects in Consumer Credit and Online Investment.

Limitations:
I.   This study is majorly dependent on the secondary sources of data and is limited to their works.
II.   The survey is taken from specified strata (working individuals) of society only.
III. This Study is relevant with in geographic scope of Indian context and cannot be generalized to broader population.

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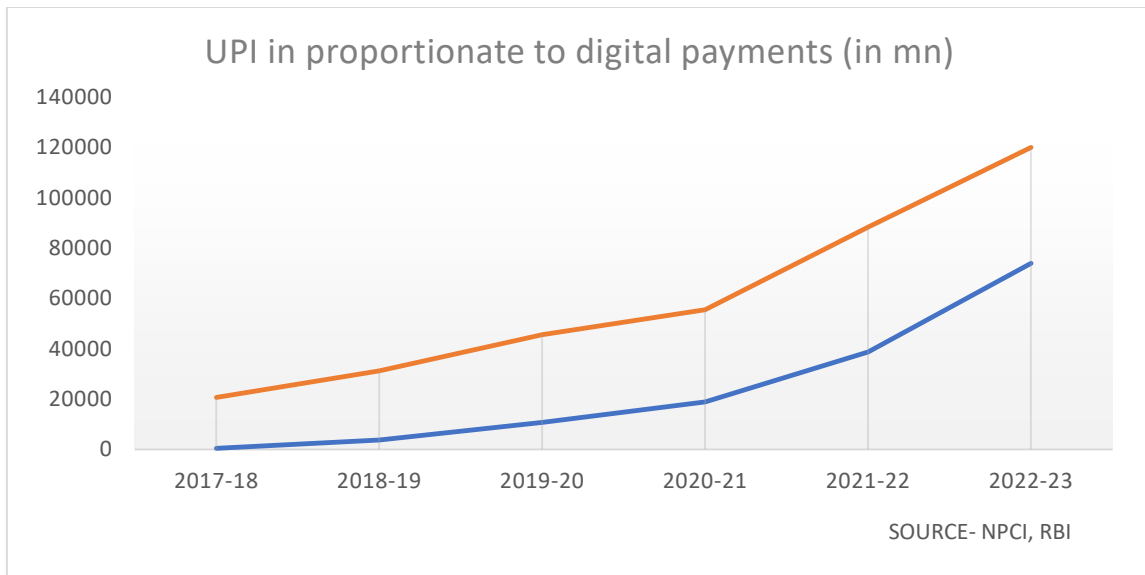
Figure:1

UPI in proportionate to digital payments (in mn)

SOURCE- NPCI, RBI

Table:1

Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.912	602.816[b]	2.000	116.000	.000	.912
	Wilks' Lambda	.088	602.816[b]	2.000	116.000	.000	.912
	Hotelling's Trace	10.393	602.816[b]	2.000	116.000	.000	.912
	Roy's Largest Root	10.393	602.816[b]	2.000	116.000	.000	.912
UPI	Pillai's Trace	.209	6.810	4.000	234.000	.000	.104
	Wilks' Lambda	**.795**	**7.058[b]**	**4.000**	**232.000**	**.000**	**.108**
	Hotelling's Trace	.254	7.301	4.000	230.000	.000	.113
	Roy's Largest Root	.236	13.814[c]	2.000	117.000	.000	.191

a. Design: Intercept + UPI

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Table:2

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	investment	20.040[a]	2	10.020	12.567	.000	.177
	Consumer Credit	10.849[b]	2	5.424	4.122	.019	.066
Intercept	investment	787.464	1	787.464	987.653	.000	.894
	Consumer Credit	576.381	1	576.381	438.038	.000	.789
UPI	investment	20.040	2	10.020	12.567	.000	.177
	Consumer Credit	10.849	2	5.424	4.122	.019	.667
Error	investment	93.285	117	.797			
	Consumer Credit	153.951	117	1.316			
Total	investment	1647.000	120				
	Consumer Credit	1174.000	120				
Corrected Total	investment	113.325	119				
	Consumer Credit	164.800	119				

a. R Squared = .743 (Adjusted R Squared = .630)
b. R Squared = .667 (Adjusted R Squared = .544)

Table:3

Dependent Variable	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Investment	3.409	.108	3.194	3.624
Consumer Credit	2.916	.139	2.641	3.192