

ROLE OF NPCI IN PROMOTING CASHLESS TRANSACTIONS: MARKETING PERSPECTIVE

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ABSTRACT

This study explores the impact of technological advancements and regulatory support on marketing efficiency in promoting digital payment platforms in India with focusing on National Payment Corporation of India (NPCI). Using a quantitative approach, data from surveys and secondary sources were analyzed through statistical methods. Findings indicate that the success of digital payment platforms such as UPI, IMPS, etc. has strengthened the regulatory framework and user-friendly platforms. Government policies, clear guidelines and user-focused initiatives play a key role in making digital payments more accessible and trusted by the public.

Key words: NPCI, cashless transaction, digital payments, Cybersecurity, Digital India, Fintech.

INTRODUCTION

The NPCI contribute towards a cashless economy by keeping the payment system safe and sound. NPCI is trying to make digital payments accessible and affordable for everyone. Indeed, the rise of digital technologies has really transformed the international financial landscape in general and particularly in India, where digital payments are on the rise. Indian banking sector is trying its best for making the digital payments more popular, since the demonetization and Digital India initiatives, the pace has accelerated. To undertake digital payments and cost-effective breakthrough, "National Payment Corporation of India" has launched "Unified Payment Interface (UPI)" which enabled digital payment services for all. It was launched as a trial model on April 11th 2016. The expansion of smartphones, high-tech innovations and adequate internet communications has enlarged the use of mobile payment services for users, financial institutions and specifically banks. To obtain the paperless and cashless economy, the concept of UPI, proposed by NPCI, would become a highly innovative method to send funds across from a virtual address. Hence, it needs to be evaluated in terms of its ability to help achieve the goal of a digital economy. UPI is an imaginably contemporary way for transferring funds using a virtual payment address established by NPCI for achieving paperless and cashless economy. Thus, it should be judged based on its future to help in achieving a digital economy.

Significance Of the Study

This study holds significant relevance in this current scenario of India's growing digital economy and the government's ongoing push towards the adoption of cashless transaction and digital transformation. The research contributes to examining the relationship between regulatory support and technological advancement in India's digital payment landscape through the lens of marketing efficiency. As the NPCI continues to serve as a central infrastructure for various digital payment platforms such as UPI, IMPS etc. There is growing need to assess how effectively the system supports business functions beyond transaction, especially in enhancing marketing outcome. The research contributes to academic literature by bridging the gap between financial technology and marketing efficiency.

Statement Of the Problem

India's rapid transition toward a digital economy, there is limited assessing of the effectiveness of NPCI in improving marketing efficiency within the broader digital financial system. NPCI implementing platforms such as UPI, IMPS etc has significantly expanded access to digital payment and services. These platforms have enhanced promotion and sustaining adoption of cashless transaction and their role in influencing marketing efficiency is unclear. It is important to understand whether the regulatory support and technological infrastructure by NPCI have effectively contributed towards the increase of digital payment systems.

Objectives

To evaluate the evolution of different payment systems in India

To evaluate the impact of regulatory support in marketing efficiency of NPCI.

To analyze the effect of innovative technologies in marketing efficiency of NPCI

To observe the different payment systems statistics in India.

LITERATURE REVIEW

Mahesh A. & Ganesh Bhat S. (2022) in their research paper, they analyze the rapid evolution of India's digital payments, driven by technological advancements and government initiatives. Their study examines the important digital payment methods like UPI and digital wallets, and they also highlight the challenges such as cybersecurity risks and digital literacy gaps(1)

Ashish das (2016) evaluates the government strategies to promote card-based and digital payments in India. The study discusses key initiatives like Merchant Discount Rate (MDR) rationalization and POS deployment while addressing challenges like infrastructure limitations and resistance to digital adoption. (2)

Shinki Katyayani Pandey (2022) explores consumer perceptions of digital payment platforms, security, ease of use, and trust factors. Their study highlights the growing preference for mobile wallets and UPI while stressing the need for enhanced cybersecurity to encourage confidence in digital transactions. (3)

G. Ramesh et al. (2020) evaluate NPCI's role in modernizing India's payment ecosystem through initiatives like UPI, IMPS, and RuPay. Their paper highlights the benefits of real-time transactions and financial inclusion while discussing barriers such as rural adoption and cybersecurity concerns. (4)

George Shaji et al. (2023) examine the impact of UPI on India's financial landscape, focusing on its merits like real-time transactions and interoperability. Their study also discusses challenges like fraudulent risks and rural digital divides while exploring future potential in cross-border payments and blockchain integration.(5)

Vamsi et al. (2023) analyze the post-pandemic developments in digital payments, particularly NPCI and BBPS's role in advancing financial inclusion. Their study highlights the improvement of UPI functionality and bill payment integration, emphasizing the need for continued growth and resilience.(6)

Roshandass Ramesh Swami & Dr. K. Kumara Pillai (2023) assess India's transition to a cashless economy after COVID-19 and post-demonetization. Their research finds a significant rise in digital transactions while paper-based transactions have drastically declined, showcasing the rise in reliance on electronic payment methods. (7)

Bhoslay Sai Sandeep & Tripti Mahara (2022) used social network analysis (SNA) to examine the relationships between digital payment platforms, merchants, and banks. Their study highlights trust, transaction flows, and collaboration as key factors influencing the adoption and efficiency of digital payment systems. (8)

Mitali Baj et al. (2023) reviews NPCI's growth and innovation in digital payments, focusing on key initiatives like UPI, RuPay, and IMPS. Their study also discusses security risks and adoption challenges while emphasizing NPCI's role in driving financial accessibility and digital transformation in India. (9)

Balakrishnan, Mahadevan (2023) analyze UPI's impact on India's digital payment ecosystem, financial inclusion, and economic growth. From their study, we can understand how UPI facilitates cashless transactions, enhances convenience, and drives digital adoption. They also describe that UPI has significantly increased digital transactions, reduced cash dependency, improved financial inclusion, and encouraged fintech innovations (10)

MATERIALS AND METHODS

Hypothesis

There is no significant relationship between technological advancements enhancing the marketing efficiency in promoting cashless transactions.

There is no significant relationship between regulatory support with marketing efficiency.

Data Collection

The research paper includes both primary and secondary data. The primary data were collected from the people using a structured questionnaire. The secondary data were collected from published journals and websites.

Construction of questionnaire

To access the effectiveness and understanding of NPCI from the user's perspective, Likert's five-point scale was used with the scale ranging as "Strongly agree, Agree, Neutral, Disagree, strongly disagree".

Sample Size

For selecting samples, Random Sampling method was used for the study with a sample size of 100.

Data Analysis

With a view to analyzing the data, Linear Regression were used. Statistical Package for Social Sciences (SPSS) Software were used for analysis.

Research Gap

Security perception beyond NPCI transactions a proper study can be done on evaluating the security of other digital payment systems (e.g., Wallets, bank apps, etc.). Comparative study with other Digital Payment platforms like PayPal, Alipay, etc. Psychological Barriers to NPCI Adoption User experience and transaction efficiency bridging rural digital division.

RESULTS AND DISCUSSION

Interpretation of 1st objective:

In ancient times, trading was done through a barter system, which is exchanging goods and services. The barter system's drawback was that the exchange of goods and services could not be done based on the actual value of goods/services. This issue was solved by the invention of currency. Later, banks were formed, and cheques were issued in banks during 1681. This was the first cashless mode of payment. Electronic fund

transfers started in the year 1871. Over the years, many innovations continued, and several other payment instruments, like coins and currencies, came into practice.

For higher-value interbank transactions, Real Time Gross Settlement (RTGS) was accomplished in 2004. with the aim of modernizing and consolidating India's retail payment system, NPCI was formed in 2008. This setup was involved in the initiation of innovative and inclusive payment solutions. The National Financial Switch (NFS) was taken over by NPCI, allowing for smooth ATM operations across banks.

In 2010, Immediate Payment Service (IMPS) came into practice, which enabled instant, 24/7 fund transfers through mobile and internet banking. In 2012, the Aadhar Payment Bridge System (APBS) was introduced to get linked with government welfare schemes to Aadhar for direct benefit transfers (DBT), ensuring efficiency and transparency.

In 2014, RuPay card came into the industry which was India's indigenous card payment network to promote financial inclusion and reduce dependency on international card networks.

In 2016, Unified Payments Interface (UPI) was introduced, which was a gamechanger in the digital payment ecosystem. It facilitated instant and secure fund transfers using virtual payment addresses (VPAs). It also encouraged innovations like QR code-based payments and third-party UPI apps like PhonePe, Google Pay, and Paytm.

Post 2016, Demonetization impact drive significantly boosted the adoption of digital payments. UPI transactions surged, and mobile wallets gained traction.

The Bharat Bill Payment System (BBPS) was launched in 2017 for simplified, one-stop bill payments across utility services. NPCI promoted RuPay and UPI internationally, making them accessible in countries like Singapore, UAE, and Bhutan.

BharatQR and QR-based Payments came into existence to promote contactless payments.

UPI transactions have reached billions, making it the backbone of India's digital payments. UPI and RuPay are gaining acceptance in multiple countries, promoting India as a global leader in fintech.

The evolution of India's payment systems, led by NPCI, has been transformative, fostering financial inclusion, security, and convenience. With continuous innovation, India is set to shape the future of global digital payments.

Interpretation of 2nd objective:

Table 1: Model Summary

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.530 ^a	.281	.270	.02590

Table 2: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.033	2	.016	24.273	.000 ^b
	Residual	.083	98	.001		
	Total	.116	100			

Table 3: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.086	.029		2.957	.004
1 Regulatory support	.118	.122	.106	.971	.334
2 Technological advancement	.580	.141	.449	4.100	.000

Interpretation

This analysis illustrates the influence of regulatory support and technological advancement with marketing efficiency of NPCI. In table 1, R value shows that there is a moderate positive correlation between technological advancement and regulatory support (independent variable) and marketing efficiency (dependent variable) and R square value indicates that the variation in marketing efficiency is explained by the regulatory support and technological advancement. In Table 2, marketing efficiency is significant with F value of 24.273 and significant level of 0.000 which is less than 5%. Table 3, depicts the positive beta coefficient of 0.449 and p-value less than 0.001 indicate that the regulatory support undertaken by NPCI is more statistically significant.

This analysis leads to the rejection of null hypothesis of regulatory support, proving that there is a significant impact of NPCI's marketing efficiency. Therefore, alternative hypothesis is accepted. Null hypothesis of technological advancement is accepted indicating that the direct influence of technology is limited.

DISCUSSIONS

The findings of the study highlight the vital role of regulatory framework such as those facilitated by NPCI in enhancing marketing efficiency in digital financial systems. Table reveals the significant relationship between regulatory support and marketing efficiency of NPCI. This includes systems such as UPI, IMPS, etc. which improve user experience. There is a lack of significant direct effect from technological advancement is widespread but its benefit may not automatically translate into marketing efficiency. This is not solely through the availability of technology but through the proper integration of user-friendly platforms supported by the regulatory, public trust, national policies, etc.

CONCLUSION

The study points out the clear indication of the dominant role, that regulatory support plays in enhancing the marketing efficiency of digital payment systems, especially those advanced and handled by NPCI. With the use of statistical analysis, regulatory aspects such as schemes introduced by the RBI, policies implemented through govt. framework and practical support provided by NPCI was found statistically impacting on the marketing outcomes. These outcomes comprise greater user obligation, attention, and trust in the systems like UPI, IMPS and other payment portals under NPCI.

While technological advancement persists as a base pillar in building digital framework, its confined impact on marketing efficiency appears narrow. The statistical results establish that technological modernization, which are demanding in enabling the performance and reliability of payment systems do not naturally lead to revised marketing performance unless they are paired with strong regulatory system and vital social

outreach. This mentions that without appropriate integration into customer friendly platforms, proper education & outreach and supporting policy environment, technology only may not attain the relevant behavioral difference among users.

The study affirms that marketing efficiency in automated financial ecosystem is a complex set up. In this context, NPCI's achievement in promoting platforms lies in the connection of security of technology and loyal regulatory oversight. The research highlights the priority of collective approach involving innovative technological solutions which enables the regulatory framework.

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Author's Contributions

Sri Lakshmi: Writing – Original Draft, Conceptualization, Formal Analysis.

Sai Saraswathi: Methodology, Formal Analysis, Conceptualization.

Srilekshmi P Nambiar: Data Curation, Writing – Review and Editing.

Rashmi J Menon: Supervision, Project Administration.

Conflict of Interest

The authors declare no conflict of interest.

Ethics Approval

Not applicable.

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