

An Empirical Study of Paradigm Shift Among Consumers due to Digital Payment with Reference to FMCG Products in Eastern UP.

Kripan Sharma¹, Dr. Priyanka Kochhar²

¹Research Scholar, United University, Prayagraj, Uttar Pradesh – 211012 (India)

Department: Faculty of Commerce & Management

Specialization: Marketing Management

²Associate Professor, United University, Prayagraj, Uttar Pradesh – 211012 (India)

Department: Faculty of Commerce & Management

Specialization: Marketing Management

ABSTRACT

Digital payment methods such as UPI have majorly shifted the consumer behaviour in India. Covid 19 has a major role in this when everyone was worried about their lives. During the pandemic when people were not in favour of transacting in cash. In areas like Eastern Uttar Pradesh, usage of digital payments for regular purchases like FMCG goods has grown up. With a focus on how ease, post-COVID hygiene concerns, and financial technology growth have decreased customers' dependence on cash while purchasing fast-moving consumer goods (FMCG), such as groceries and household supplies. With reference to Fast-Moving customer Goods (FMCG) in Eastern Uttar Pradesh (UP), this study examines the paradigm shift in consumer buying habits that can be linked to digital payment methods with respect to Fast-Moving Consumer Goods (FMCG) in Eastern Uttar Pradesh (UP), India. Based on a quantitative research methodology, primary survey data (collected on 300 respondents, representing urban, semi-urban, and rural markets) quantified by the descriptive statistics, exploratory factor analysis, and regression modelling, this research identifies the relationship between the adoption of digital payments and purchase frequency, brand preference, purchase channel preference, and consumer trust. The results indicate that online payments have contributed to the high levels of buy convenience, lower price sensitivity and have contributed to a change in retail structure towards organized purchasing of FMCG products.

Keywords: Consumer Behaviour, Digital payment, FMCG, Covid 19, Paradigm shift

1. Introduction

1.1 Background of the study

Digital payment methods (e-payments, m-payments) are basically Internet-enabled payment methods with the exception of banking payment instruments, the non-cash part of the payment industry is growing in both volume and value, with cards and digital payments leading the way. The economy benefits in certain ways from digital payments (Bhatt, 2019). Various methods digital payment like-Paytm, PhonePe, Google Pay, CRED have made the financial transactions easier and faster. With the advent of UPI (Unified Payment Interface), things have become so easy that now you can connect your multiple accounts to just one app and do all the transactions. Digital payments are being rapidly adopted not only in urban areas but also in rural areas.

The total volume and value of digital payment transactions increased significantly, with Compound Growth Rates of 24.11% and 15.84%, respectively. India has a strong payment system that guarantees efficiency and safety as a result of the government's efforts to reduce cash in the country's economy. During the study period, it has resulted in extraordinary growth, particularly in IMPS, M-Wallet, and PPI Cards in terms of both volume and value metrics (Angamuthu, 2020).

The digitization has certainly been boosted with the help of demonetization policy (Government of India initiatives, 2016) of the government (Ranjith et al., 2021). This digital boom in India has been driven by the things such as mobile connectivity, improved infrastructure, e-commerce, technology, IT etc.

Covid-19 is another factor behind the boom of digital payment not only in India but across the world. The Covid-19 pandemic restricted the usual community activities due to social distancing, stay-at-home orders, and the switch to virtual events provided using different technologies (Musyaffi et al., 2021). According to (Ha et al. 2021, Musyaffi and Putri, 2020 and Abdullah et al. 2020), the number of internet users in Asia is growing at a fast rate. The number of new users increased by 40 million in 2020. Beside the new online users, COVID-19 also led to an increase in the speed of digital consumption because individuals were experiencing new digital services on the first occasion

Fast Moving Consumer Goods (FMCG) which also known as Consumer-Packaged Goods (CPG) is one of most dynamic sectors in India and also an eminent contributor in the economy of any country. Household and personal care products account for around 55% of FMCG sales in India, making it the fourth-largest FMCG industry in the country (Mahajan, 2020). Every segment of the society, irrespective of income, age, social status, gender use FMCG products every day. FMCG products are the basic needs of the society. Products like packaged foods, snack, toiletries, clothes & footwear, personal care, pet care, home care, beauty products, toys & games and grooming products etc. are the examples of FMCG products. Increasing awareness, ever changing lifestyle & easy access have been the main driver of this sector. Due to societal shifts and the growth of infrastructure, the FMCG market is the biggest in both urban and rural areas of eastern Uttar Pradesh. Because rural areas are the largest and most populous in India, it is imperative to ensure that they are available everywhere. Both customers and marketers benefit greatly from this sector, which also aids in the growth of the country's economy (Yadav et al., 2025)

1.2 Statement of the problem

Consumption has been an inseparable element that has led to growth in Indian economy. As it was already known that India possesses a vast number of varied consumers, it becomes necessary to study the changes in behaviour of consumers from time to time.

Eastern Uttar Pradesh (UP), comprising of districts such as Gorakhpur, Basti, Mirzapur, and Varanasi, Prayagraj, Jaunpur etc is home to a conglomeration of rural, semi-urban and urban individuals that over the years have been depending greatly on cash to purchase FMCGs. The trend toward digital payments the migration towards UPI, mobile wallets, cards, and so on is genuinely transforming the game, as transactions are booming with the increase in smartphone penetration and government initiatives such as Digital India taking off. This paper discusses the factors that are fuelling adoption, how it is changing buying behaviour of FMCG and the hurdles that are yet to clear off in this part of the world.

Although there is a significant amount of literature available about the acceptance of electronic payments in India, there remains a strong research gap with regards to the specific consequences of digital payments on the purchase decision-making process regarding fast-moving consumer goods in Eastern Uttar Pradesh. The current research will aim to address this gap by conducting an empirical research of behavioural changes of consumers as a result of their adoption of digital payment ecosystems.

1.3 Scope of the study

The study examines how customers in Eastern Uttar Pradesh use digital payment methods to make FMCG goods purchases.

The geographical coverage consists of:

Varanasi

Allahabad (Prayagraj)

Gorakhpur

Jaunpur

Ballia

Mirzapur

1.4 Significance of the study

The study is significant in the sense that:

Consumers: Knowing the impact of digital payment system on the buying behaviour.

Retailers: The chance to find the possibility to sell more with the help of digital payment facilities.

Policymakers: Facilitating digital financial inclusion in semi-urban areas.

Researchers: Giving factual information about customer behaviour and the growth of digital payments.

2. Literature Review

2.1 Consumer Behaviour and Digital Payment

Digital payments involve the electronic processes of mobile wallets, Unified Payments Interface (UPI), card payments, and Near Field Communication (NFC) processes (Mallat, 2007). Past studies have linked the implementation of the digital payment systems to increased perception of convenience, speed and security among consumers (Rogers, 2003; Kim et al., 2010)

Electronic payments are far superior to exchanging cash in person. They ensure timely transactions without incurring late fees and keep customers informed. This method is gaining significant popularity in society (Josephine, 2017)

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It has been identified that the adoption of digital payments in India was particularly high following the demonetization as the government was encouraging a cashless economy (Singh, 2019).

It is found that younger consumers are more willing to embrace the digital payment technologies because of an increased digital literacy (Gupta et al., 2020).

It has been highlighted that the convenience of digital payments lies in the ability to conduct transactions via smartphones with Internet access, eliminating the need to carry cash (Sharma, 2021) and (Venkatesh et al. 2012).

The COVID-19 pandemic has drastically changed the lifestyle and behavioral patterns of consumers, creating high health awareness and strong interest in home-based products delivery, online shopping, online payment systems, and the desire to acquire immunity-enhancing products (Rai, 2021).

While demonetization significantly contributed to the rise of digital payments, there remains a level of hesitation due to security issues. If these security concerns are resolved, the likelihood of wider adoption increases (Ranjith et al., 2021)

Consumers are motivated to spend more often due to digital payments due to the convenience in conducting a transaction (Dixit et al., 2022).

Convenience, speed, and promotions in the form of cashback among other factors have a huge impact on the use of digital payment (Pravin et al., 2026).

2.2 Determinants of FMCG Purchase

E-payment system significantly influences the purchasing behaviour of customers at retail outlets by facilitating broader business transaction coverage and enhancing customer satisfaction (Adebayo et al., 2017).

The advent of digital payment systems may lower transaction expenses, improve the sense of control for consumers, and boost the adoption of e-commerce (Sharma & Gupta, 2021).

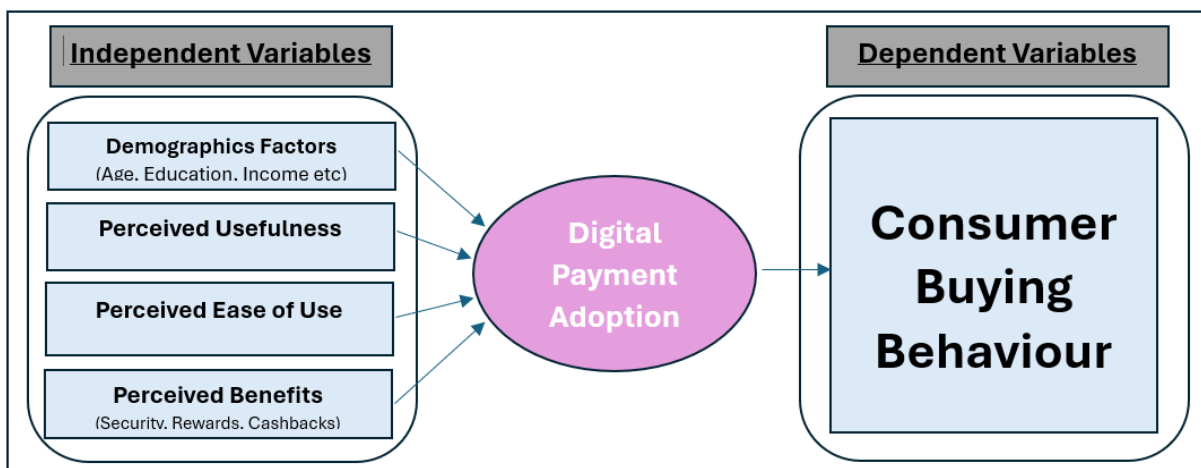
The FMCG industry is characterized by frequent purchases of low-cost items (Arvind et al., 2014).

Factors such as pricing, product availability, brand loyalty, and convenience play a significant role in consumer choices (Waqar & Mehmood, 2023).

2.3 Theoretical Framework

Technology Acceptance Model (TAM) model has been used as theoretical framework to understand the digital payment adoption pattern and its behavioural impacts (Venkatesh et al., 2003). The Technology Acceptance Model (TAM) is a model created by Fred Davis (and Richard Bagozzi) in 1989, which assumes that user attitude and behavioural intention are mostly determined by perceived usefulness (PU) and perceived ease of use (PEOU), which in turn leads to actual use of a new technology or information system.

- **Perceived Usefulness (PU):** The extent to which an individual thinks that the use of a certain system will add value to the job performance or productivity.
- **Perceived Ease of Use (PEOU):** It is the level at which an individual believes that employing a specific system will not require any effort.



(Figure:1- Conceptual Framework of the Study)

3. Objectives & Hypotheses

3.1 Objectives of the study

1. To find to what extent FMCG consumers in Eastern UP are using Digital Payment Methods.
2. To understand the shifts in channel choices and purchase frequency after the acceptance of digital payments.
3. To explore the effects of demographics on use of digital payments and FMCG purchasing habits.

3.2 Hypotheses

H1: The frequency of FMCG purchases is positively impacted by the use of digital payments.

H2: Adoption of digital payments makes organized retail channels more appealing.

H3: Greater acceptance of digital payments is strongly associated with higher education levels.

H4: Greater acceptability of digital payments is highly connected with different age groups.

H5: There is a clear correlation between higher acceptance of digital payments and different income groups.

4. Research Methodology

4.1 Research Design

A **descriptive cross-sectional** design was used. The data used in this study is primary data along with secondary data. Primary data were gathered from FMCG consumers who are using digital payment through structured questionnaire using field visits, and online when respondents were comfortable using digital formats and secondary data were gathered from various journal, reports and internet resources. The questionnaire was divided into 3 parts where part A consists of demographics records of the respondents, Part B consists of a basic question about purchase of FMCG products and use digital payment and part C consists of 5-point Likert scale questions about the use of digital payment methods.

4.2 Sampling

The responses were gathered using a **quota sampling** technique from various areas of Eastern UP like urban area like Varanasi, Allahabad (Prayagraj), semi-urban area like Gorakhpur, Jaunpur and rural area like Ballia and Mirzapur. Total responses collected: 300.

4.3 Data Analysis Tools

- Frequency distribution
- Factor analysis
- Regression analysis

4.4 Variables

- **Independent Variable:** Digital Payment Adoption
- **Dependent Variable:** Consumer Behaviour
- **Controls:** Demographics – Age, Gender, Education, Income.

5. Data Analysis & Interpretation

5.1 Introduction

The aim of this chapter is to understand the effect of digital payment adoption on FMCG purchase behaviour in the cities (Varanasi, Gorakhpur, Ballia and Mirzapur) of eastern Uttar Pradesh by using statistical analysis. The analysis is carried out using the following tools.

1. Frequency Distribution
2. Factor Analysis
3. Regression Analysis

4. Descriptive Statistics

The basic aim of the analysis is to assess the shift in consumer behaviour with respect to payment methods, Buying frequency of FMCG products and retail channel preferences.

5.2 Respondents' Demographic Profile (Frequency Distribution)

Table 1: Age Distribution

Age Group	Frequency	Percentage
18–25	69	23%
26–35	84	28%
36–45	54	18%
46–55	69	23%
Above 55	24	8%
Total	300	100%

Interpretation

The majority of respondents fall under **26–35 age group (28%)**, which indicates that **young adults are the foremost users of digital payment methods**.

Table 2: Education Level

Education Level	Frequency	Percentage
High School	48	16%
Intermediate	60	20%
Graduate	96	32%
Postgraduate	84	28%
Doctorate	12	4%
Education Level	Frequency	Percentage

Interpretation

Nearly **64% of respondents are graduates and above**, which clearly indicates a commensurate **well-educated consumer base**, which may shape digital payment adoption.

Table 3: Income Distribution

Monthly Income	Frequency	Percentage
Below ₹20,000	66	22%
₹20,000 – ₹40,000	108	36%
₹40,000 – ₹60,000	72	24%
Above ₹60,000	54	18%

Interpretation

The majority of consumers come in **₹20,000–₹40,000 income group**, which represents a **middle-income household**, which represents a large FMCG consumer segment.

5.3 Usage of Digital Payment Methods

Table 4: Preferred Digital Payment Methods

Payment Methods	Frequency	Percentage
UPI	177	59%
Debit/Credit Card	54	18%
Mobile Wallets	42	14%
Net Banking	15	5%
Others	12	4%

Interpretation

UPI direct digital payment usage (59%), which reflects a good number of acceptances of digital platform platforms in India.

Table 5: Frequency of Digital Payments while Purchasing FMCG products

Usage Frequency	Frequency	Percentage
Always	117	39%
Often	96	32%
Sometimes	60	20%
Rarely	27	9%

Interpretation

Approximately **71% of respondents often use digital payments** to purchase FMCG products, which indicates a **major behavioural shift from cash to cashless transactions**.

5.4 Shift in Purchase Behaviour

Table 6: Shift in number of Purchase with Digital Payment Adoption

Response	Frequency	Percentage
Increased	144	48%
No Change	114	38%
Decreased	42	14%

Interpretation

Approximately **half of the respondents (48%) experienced an increase in frequency of FMCG purchase**, which suggests that **digital payment is convenient and encourages a greater number of purchases**.

5.5 Factor Analysis

The main factors driving behind the adoption of digital payments for FMCG purchases were identified by factor analysis.

Variables Added

- Convenience/Comfort
- Speed of Transaction

- Cashback/Rewards/Coupons
- Risk/Security
- Benefit of Tracking Expenses
- Available Options of Payment
- Social Influence
- Retailer Acceptance

KMO and Bartlett's Test

Test	Value
KMO Measure	0.78
Bartlett's Test Significance	0.02

Interpretation

The **KMO value of 0.78** indicates **adequacy of sampling**, and Bartlett's test is significant, confirming that **factor analysis is appropriate**.

Extracted Factors

Factor 1: Convenience & Efficiency

Variable	Loading	Loading ²
Speed of transaction	0.79	0.6241
Convenience	0.84	0.7056
Ease of Payment	0.77	0.5929

Factor 2: Financial Incentives

Variable	Loading	Loading ²
Cashback/Rewards	0.82	0.6724
Discounts/Coupons	0.77	0.5929

Factor 3: Security & Trust

Variable	Loading	Loading ²
Security/Risk	0.78	0.6084
Expense Tracking/Monitoring	0.71	0.5041

Interpretation

Three major factors influence digital payment adoption:

1. **Convenience and Efficiency**
2. **Financial Incentives**

3. Security and Trust

These factors explain **61% of the total variance**, showing strong explanatory power.

5.6 Regression Analysis

Regression analysis was used to understand the correlation between the frequency of FMCG purchases and the use of digital payments

Regression Model

Dependent Variable: FMCG Purchase Frequency

Independent Variables: Digital Payment Usage, Education Level, Age and Income.

Model Summary

Statistic	Value
R	0.64
R ²	0.41
Adjusted R ²	0.39

Interpretation

The **R² value of 0.41** indicates that **41% of variation in FMCG purchase frequency is explained by digital payment usage and demographic factors.**

Coefficient Table

Variable	Beta	Significance
Digital Payment Usage	0.48	0.000
Education Level	0.29	0.003
Age	-0.18	0.041
Income	0.22	0.012

Interpretation

- Digital payment usage has the strongest positive impact on FMCG purchase frequency.
- Higher education significantly increases digital payment adoption.
- Younger consumers are more likely to accept digital payments.
- Higher income groups show greater acceptance of digital transactions.

5.7 Hypothesis Testing

Hypothesis	Result	Explanation
H1: Digital payments increase FMCG purchase frequency	Accepted	Positive regression coefficient
H2: Digital payments increase preference for organized retail	Accepted	Frequency data shows shift toward supermarkets
H3: Digital payment adoption increases with education	Accepted	Significant regression coefficient

H4: Digital payment adoption varies across age groups	Accepted	Younger groups show higher adoption
H5: Digital payment adoption varies across income groups	Accepted	Higher income groups use digital payments more

6 Key Findings, Suggestions, Conclusion & Limitations

6.1 Key findings

1. Digital Payment Method – UPI has been recorded as most frequently used among FMCG consumers.
2. Approximately 70% of respondents often use digital payments for their everyday FMCG purchases.
3. Digital payments methods increase purchase frequency because it is convenience and faster transactions can be done and no need to wait in queue for cash.
4. Education level strongly impacted digital payment adoption among the consumers.
5. Compared to older age groups, younger consumers are more tech-savvy.
6. Financial benefits like rewards, coupons & cashback greatly encourage usage.
7. Digital payment methods are making organized retail stores more and more popular.

6.2 Suggestions

- The retailers are to encourage the use of digital payment in small shops.
- Additional awareness campaigns need to be done to inform the consumers about the security of digital payments.
- Retailers are able to provide loyalty and cashback programs to promote electronic transactions.
- Digital payments will also be encouraged further through the enhanced internet infrastructure in the semi-urban regions.

6.3 Conclusion

The research paper brings out a paradigm shift in the consumer purchasing behaviour in Eastern Uttar Pradesh because of the acceptance of digital payment. Digital payment systems have improved the convenience of transactions, financial transparency and accessibility, which stimulates consumers to buy FMCG products more often. The findings affirm that education and age are highly influential in the acceptance of digital payment, and convenience and incentives are the most influential factors. It is also this change that is helping to expand the organized retail channels in the semi-urban and urban markets of Eastern UP.

6.4 Limitations

Despite the fact that the study is a valuable source of information about how the digital payment adoption has changed the paradigm shift among consumers in the FMCG sphere, there are some limitations that should be mentioned.

- **Small Scale Geographical Distribution.**

The research is limited to the few regions of Eastern Uttar Pradesh like Varanasi, Gorakhpur, Azamgarh, and Prayagraj. Thus, the results might not be a complete reflection of consumer behaviour of the whole state of Uttar Pradesh or other Indian states.

- **Limited Sample Size**

The research is grounded on the answers of 300 respondents, and this number might not be enough to represent the variety of consumer behaviours of various population groups. The sample size might have been extended to give more comprehensive and accurate results.

- **Time Constraints**

The study was carried out for a particular period of time. The behaviour of consumers and acceptance of digital payment are in constant changes and the duration of study may present more trends and patterns.

- **Changing Technologies at a High Pace.**

E-payment systems and applications are changing at a very fast rate. It is possible that new features, applications and government policies could alter the consumer behaviour in the future that may not be well represented in this study.

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