From Cash to Scan: A Study on the Adoption and Impact of UPI Among College Students

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***Abstract*—Walk into any college canteen today and you will notice something interesting — instead of coins and cash, students are busy scanning QR codes. Not long ago, we had to visit ATMs to withdraw our weekly pocket money. Today, apps like Google Pay and Phone Pe have completely transformed how students manage and spend money. This research explores this major shift and tries to understand how digital payments have become the "new normal" for college students and how this change is influencing their spending behavior.**

The purpose of this study was not just to look at how many students have payment apps installed, but to understand how often they use them, which apps they prefer, and most importantly, whether paying digitally makes students spend more than paying with physical cash. The study also explores the psychology behind spending — do we treat money differently when we don't physically see it leaving our hands?

To understand this, a survey was conducted among 110 students from different academic streams. The questionnaire covered daily expenses like food, travel and printing, as well as impulsive spending habits and budgeting behavior. The goal was to capture a realistic picture of how students spend most of their money only digitally.

The findings were very clear. More than 90% of the students surveyed rely almost entirely on UPI for daily transactions, from paying for tea to settling café bills. However, the convenience comes with a downside. Many students admitted that because paying is so quick and effortless — often just a fingerprint or PIN — they tend to make impulse purchases they would normally avoid if they had to pay with cash. The "pain of paying" has reduced, leading to faster and sometimes careless spending. Another key finding was the strong dependency on digital systems. When UPI servers fail or internet connectivity drops, many students feel stranded without any backup payment option.

In conclusion, while UPI has made life easier and faster, it also demands better financial discipline and awareness. Students must become more mindful of tracking their digital spending to avoid losing control over their budgets.

***Index Terms*—UPI, College Life, Pocket Money, Digital Payments, Spending Habits, Impulse Buying, Google Pay, Student Budget.**

I. INTRODUCTION

1.1 Background of the Study

Over the past decade, India has experienced a major transformation from a cash-driven economy to one of the world's leaders in real-time digital payments. This shift accelerated with the launch of the Digital India initiative and the introduction of the Unified Payments Interface (UPI) in 2016.

UPI became successful mainly because of its simplicity. Instead of remembering complicated bank details, users could simply pay through a Virtual Payment Address (VPA) or scan a QR code. This made digital payments accessible to everyone — from large shopping malls to small local Kirana stores. What started as a convenient payment method has now become a daily habit. "Scan and Pay" is no longer just a feature; it is now part of everyday life.

1.2Problem Statement

The biggest impact of this shift can be seen among Generation Z, especially college students. This group is important to study because of two major reasons:

Digital Comfort: College students have grown up with smartphones and apps. They naturally trust digital systems and prefer speed and convenience.

Limited Budgets: Unlike working professionals, most students depend on fixed allowances from parents. This means even small overspending can create financial stress.

The key issue explored in this study is the Psychology of Frictionless Spending. Research in

behavioral science suggests that using physical cash creates a psychological effect known as the "pain of paying." When we hand over cash, we feel the loss more strongly, which helps control spending. However, the UPI removes this friction completely. Payments happen in seconds, and money becomes "invisible" or "digital." This creates what researchers call the pixel-money effect, where digital balances feel less real, leading to unplanned spending and weaker financial discipline.

1.3 Objectives of the Study

This research aims to understand how UPI influences the financial behavior of college students through the following objectives:

• Platform Preference: Identify the most popular UPI apps among students and understand the reasons behind their choice.

• Spending Patterns: Study whether digital payments have shifted spending from essentials (books, food) to lifestyle and entertainment.

• Impulse Spending: Examine how easy payments influence unplanned purchases.

• Reliability & Dependency: Understand how students cope during server downtime or technical issues.

1.4 Significance of the Study

The financial habits developed during college often continue into adult life. If UPI convenience is encouraging careless spending, it highlights a serious gap in digital financial literacy. This study is important because it provides practical insights into how modern payment tools affect young consumers. The findings can help students become more financially aware and assist parents and financial institutions in designing better tools and guidance for young users.

1.5 Scope and Limitations

This study focuses only on college students studying in Pune. It examines UPI transactions and does not include other digital payment methods such as credit cards or cryptocurrency. One limitation of the study is that the data is self-reported, meaning the results depend on how accurately students remember and report their spending habits.

II. LITERATURE REVIEW

2.1 Soman (2001) – Effects of Payment Mechanism on Spending

Soman examined how different payment methods influence consumer spending behavior. The study found that paying with cash creates a stronger emotional reaction because people physically see money leaving their hands. This emotional discomfort acts as a natural control mechanism that helps individuals limit spending. However, when payments become digital, this feeling of loss reduces significantly. As a result, people tend to spend more freely and frequently. This research forms a foundational base for understanding overspending on digital payment environments.

2.2 Prelec & Loewenstein (1998) – Mental Accounting and Payment Behavior

This study introduced the concept of mental accounting, explaining how people mentally organize and track their money. The researchers found that the connection between spending and payment becomes weaker when digital methods are used. When money is not physically visible, it feels less real and less valuable. This makes consumers more comfortable making purchases without carefully evaluating them. The study strongly supports the idea that digital payments can lead to higher spending. It remains one of the most cited works in behavioral finance.

2.3 Raghubir & Srivastava (2008) – The Monopoly Money Effect

Raghubir and Srivastava studied how the form of money affects spending habits. Their findings showed that people spend more when using cards compared to cash because digital money feels less tangible. This phenomenon is called the "Monopoly Money Effect." Since digital money does not feel physically real, consumers become less sensitive to price. This leads to higher spending and more impulsive buying behavior. The study provides strong evidence that payment methods directly influence financial decisions.

2.4 Hirschman (1979) – Electronic Payments and Consumer Behavior

Hirschman explored how electronic payment methods influence purchasing behavior. The study

found that consumers using electronic payments tend to spend more compared to cash users. Younger individuals were especially open to adopting new payment technologies. The research also highlighted that electronic payments increase purchasing convenience and frequency. This study is considered one of the earliest works connecting technology with consumer spending behavior.

2.5 Feinberg (1986) – Credit Cards as Spending Facilitators

Feinberg conducted experiments showing that the presence of credit cards can influence spending decisions. The study revealed that people are more willing to make purchases when they have access to cards. Interestingly, even seeing a credit card logo can encourage spending behavior. This research showed that payment tools can psychologically influence purchase decisions. It helped researchers understand the link between payment convenience and increased spending.

2.6 Thaler (1985) – Mental Accounting Theory

Thaler introduced the broader theory of mental accounting in behavioral economics. The study explains how people categorize and treat money differently based on context. When payments are digital, tracking expenses becomes more difficult. This often results in poor budgeting and impulsive spending habits. The theory is widely used to explain modern digital spending behavior.

2.7 Ajzen (1991) – Theory of Planned Behavior

Ajzen proposed that behavior is influenced by attitudes, social pressure, and perceived control. This theory is widely applied to technology adoption research. Students often adopt digital payments because they believe it is useful and socially accepted. Peer influence and social norms play a strong role in shaping behavior. This model is frequently used in digital payment studies.

2.8 Davis (1989) – Technology Acceptance Model

Davis introduced the Technology Acceptance Model to explain why people adopt new technology. According to this model, perceived usefulness and ease of use determine adoption. Digital payment apps score highly on both factors. This explains their rapid growth among young users. The model is one of the most used frameworks in technology adoption research.

2.9. Venkatesh et al. (2003) – Unified Theory of Technology Acceptance (UTAUT)

This study combined multiple adoption theories into one model. It found that performance benefits, effort required, and social influence affect technology usage. The model is widely applied in mobile payment research. It helps explain why students quickly adopt UPI and payment apps.

2.10 Kim et al. (2010) – Factors Influencing Mobile Payment Adoption

Kim and colleagues studied factors influencing mobile payment adoption. The research found that trust, security, and usefulness strongly affect adoption. Users are more likely to adopt payment apps when they feel safe. Convenience also plays a major role in continued usage.

2.11 Dahlberg et al. (2015) – Review of Mobile Payment Research

Dahlberg and colleagues reviewed more than a decade of mobile payment research to understand global trends. The study found that younger users are the fastest adopters of mobile payment systems. Convenience, speed, and accessibility were identified as the strongest motivators for adoption. The research also showed that mobile payments are mostly used for small daily transactions. This review provides strong background support for studies focusing on student payment behavior.

2.12 Oliveira et al. (2016) – Mobile Payment Adoption Factors

Oliveira examined how lifestyle compatibility influences mobile payment adoption. The study found that people adopt technology that fits smoothly into their daily routines. Mobile payments match the fast-paced lifestyle of students and young adults. Ease of use and perceived usefulness were key drivers. The research highlights how digital payments naturally integrate into student life.

2.13 Slade et al. (2015) – Consumer Adoption of Mobile Payments

Slade and colleagues studied factors affecting consumer willingness to use mobile payments. The

research found that trust, perceived risk, and social influence are major factors in adoption. Younger consumers showed higher willingness to adopt new payment technologies. The study also emphasized the importance of security perception. It explains why trusted payment apps grow faster among students.

2.14 Liébana-Cabanillas et al. (2017) – Mobile Payment Behavior

This study analyzed mobile payment behavior across different age groups. The findings showed that young consumers are the most active and frequent users of mobile payments. Convenience and speed were the main reasons for adoption. The research also highlighted how lifestyle plays a key role in technology usage. It supports the idea that students are leading the shift toward digital payments.

2.15 Shaw (2014) – Factors Influencing Mobile Payment Usage

Shaw explored why consumers choose mobile payments over traditional methods. The research showed that timesaving and convenience strongly influence usage. Users prefer payment methods that simplify everyday tasks. This explains why mobile payments quickly became popular among busy students. The study highlights the importance of efficiency in technology adoption.

2.16 Cobanoglu et al. (2015) – Mobile Payments and Spending Frequency

Cobanoglu examined the impact of mobile payments on the hospitality sector. The study found that easier payment options increase spending frequency. When payments become fast and effortless, consumers make more frequent purchases. This behavior is closely linked to impulsive spending. The research provides strong support for studying digital spending among students.

2.17 Yang et al. (2012) – Consumer Attitudes Toward Mobile Payment

Yang studied how consumer attitudes influence mobile payment adoption. The research found that positive attitudes lead to continued usage. Users who find payment apps helpful and convenient tend to rely on them regularly. This study highlights the importance of perceived usefulness in long-term adoption. It explains why students continue using UPI once they start.

2.18 Zhou (2014) – Mobile Payment Continuance Intention

Zhou examined why users continue using mobile payments after adoption. The study found that satisfaction and convenience are the strongest reasons. Users stick with payment apps that make life easier. Continuous usage becomes part of a daily routine. This explains why students become highly dependent on digital payments.

2.19 Schierz et al. (2010) – Acceptance of Mobile Payment Services

Schierz explored the role of risk and trust in mobile payment adoption. The research showed that perceived risk can slow adoption. However, trust in the system reduces hesitation. Once trust is built, users adopt mobile payments quickly. This study highlights the importance of security perception.

2.20 Mallat (2007) – Consumer Adoption of Mobile Payments

Mallat studied how consumers use mobile payments in real life. The research found that mobile payments are mostly used for small daily purchases. This includes food, transport and entertainment expenses. The study matches student spending patterns closely. It provides strong support for research on UPI usage among college students.

Hypotheses of the Study

Platform Preference

Objective: Identify the most popular UPI apps among students and understand the reasons behind their choice.

H_{01} (Null Hypothesis): There is no significant preference for any UPI application among college students.

H_{11} (Alternative Hypothesis): There is a significant preference for specific UPI applications among college students.

Spending Patterns

Objective: Study whether digital payments have shifted spending from essentials to lifestyle and entertainment.

H_{02} (Null Hypothesis): UPI usage has no significant impact on students' spending patterns between essential and lifestyle expenses.
H_{12} (Alternative Hypothesis): UPI usage significantly influences students' spending patterns, increasing lifestyle and convenience spending.

Impulse Spending

Objective: Examine how easy payments influence unplanned purchases.
H_{03} (Null Hypothesis): UPI usage does not significantly influence impulse buying behaviour among college students.
H_{13} (Alternative Hypothesis): UPI usage significantly increases impulse buying behaviour among college students.

Reliability & Dependency

Objective: Understand how students cope during server downtime or technical issues.
H_{04} (Null Hypothesis): College students are not significantly dependent on UPI for daily transactions.
H_{14} (Alternative Hypothesis): College students are significantly dependent on UPI for daily transactions.

III. RESEARCH METHODOLOGY

3.1 Research Design

The primary aim of this study was to understand how UPI has become part of the everyday financial behaviour of college students. Instead of viewing digital payments only as numerical data, the research attempted to capture the real-life experiences, habits, and behavioural shifts that students encounter in a digital payment environment.
To achieve this objective, a descriptive research design supported by a quantitative approach was adopted. This research design was considered suitable because it allows the researcher to identify and describe behavioural patterns, usage trends, and spending habits within a specific group. The quantitative approach enabled the conversion of student responses into measurable data, making it possible to identify common trends and draw meaningful conclusions about how students manage their money in a digital-first economy.

3.2 Research Instrument

Data for the study was collected using a structured questionnaire developed through Google Forms. To encourage honest and natural responses, the questionnaire was designed using simple and relatable language rather than complex financial terminology. Familiar expressions such as *canteen spending, pocket money, QR scanning,* and *server issues* were used so that respondents could easily relate to the questions and share their real experiences.
The questionnaire was divided into three main sections:
Section 1: Demographic Details This section gathered basic information such as age, gender, and academic stream. These details helped in understanding whether background factors influence digital payment behaviour.
Section 2: UPI Usage Behaviour This section focused on understanding the practical aspects of UPI usage, including preferred payment applications, frequency of transactions, and major spending categories.
Section 3: Psychological and Behavioural Impact This section explored the deeper behavioural effects of digital payments, such as impulse buying tendencies, budgeting habits, and student reactions during UPI server failures or technical issues.

3.3 Sampling Method

Due to the large population of college students in Pune, it was not feasible to collect data from every individual. Therefore, the study adopted the Convenience Sampling method.
Pune was deliberately chosen as the study area because it is widely recognized as a major educational hub with a large population of digitally active students. The widespread acceptance of UPI among local vendors, campus canteens, cafés, and small businesses makes the city an ideal setting to study digital payment behaviour among students.

3.4 Sample Size

The study collected responses from 110 college students studying in different institutions across Pune. Efforts were made to include students from diverse academic backgrounds to ensure balanced representation.
Distribution of respondents by academic stream:

Academic Stream	Percentage
Science / Engineering	50%
Commerce / Management	45.16%

Other Streams	3.22%
Medical	1.61%

This diversity ensured that the findings reflect a broad range of financial attitudes and spending behaviours.

3.5 Data Collection Procedure

The questionnaire was distributed through commonly used student communication channels such as WhatsApp groups, college networks, and peer sharing. Data collection was carried out over a period of two weeks. Participation in the survey was entirely voluntary, and respondents were encouraged to provide honest answers based on their real-life experiences.

3.6 Statistical Tools Used

Two primary analytical tools were used to analyse the collected data:

Percentage and Frequency Analysis

This method helped in identifying general trends and patterns in UPI usage and student spending behaviour.

Chi-Square Test

To test the research hypotheses scientifically, the Chi-Square Test was applied. This test helped determine whether the observed responses were statistically significant and not the result of random variation.

The formula used for the Chi-Square test is:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:

O = Observed frequency

E = Expected frequency

3.7 Ethical Considerations

Ethical principles were carefully maintained throughout the research process.

• No sensitive financial information such as bank details or UPI IDs was collected.

• All responses were kept anonymous to ensure privacy.

• Participation was voluntary, and respondents could choose to withdraw at any stage.

• The collected data was used strictly for academic purposes.

IV. DATA ANALYSIS, INTERPRETATION AND HYPOTHESIS TESTING.

This chapter presents the analysis of responses collected from 64 college students in Pune. The purpose of this chapter is not only to present numerical results but to interpret the behavioral meaning behind them. The data was analyzed using percentage analysis and the Chi-Square Test of Goodness of Fit to examine whether the observed behavioral patterns were statistically significant.

4.1 Demographic Profile of Respondents

Students from different academic backgrounds participated in the study:

- Science / Engineering – 50%
- Commerce / Management – 45.16%
- Other & Medical – 4.84%

This balanced representation ensured that the findings reflect varied financial mindsets and student lifestyles.

4.2 Hypothesis Testing Using Chi-Square Test

To scientifically validate the research objectives, the Chi-Square Test was applied. This test helps determine whether the observed responses differ significantly from what would normally be expected if no real behavioural pattern existed.

In simple terms, the test answers this question: Are the results real, or are they just due to chance?

Why Chi-Square Was Used

The data collected in this research is categorical data (app choice, spending category, yes/no responses). The Chi-Square test is the most suitable statistical tool for testing relationships and preferences in such data.

Formula Used

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:

O = Observed frequency (actual survey responses)

E = Expected frequency (responses expected if no preference existed)

Steps Followed in Hypothesis Testing

1. Formulate Null and Alternative Hypothesis
2. Calculate Expected Frequencies assuming equal distribution
3. Compute Chi-Square value

4. Compare with Critical Table Value (α = 0.05)
5. Accept or Reject the Null Hypothesis

If the calculated value is greater than the table value, the Null Hypothesis is rejected.

HYPOTHESIS 1 – Platform Preference

H_{01}: No preference exists for any UPI app

H_{11}: Students prefer specific UPI apps

Observed App Usage

- Google Pay – 46.77%
- PhonePe – 32.26%
- Paytm – 16.13%
- Others – 4.84%

Chi-Square Explanation

If students had no preference, all apps would be used almost equally (≈25% each). However, the observed responses show strong concentration toward Google Pay and PhonePe.

The calculated Chi-Square value was greater than the critical value, proving that the difference is statistically significant.

Decision

Reject H_{01} → Accept H_{11} Students show a strong preference for specific UPI apps.

HYPOTHESIS 2 – Spending Patterns

H_{02}: UPI does not influence spending patterns

H_{12}: UPI influences spending patterns

Spending Categories

- Food & Cafes – 57.37%
- Online Shopping – 16.39%
- Travel – 13.11%
- Bills/Recharges – 9.83%
- Splitting Bills – 3.27%

Chi-Square Explanation

If UPI had no influence, spending would be more evenly distributed across categories. Instead, more than half the transactions are concentrated in food and daily lifestyle spending.

Decision

Chi-Square result significant → Reject H_{02} UPI significantly influences spending patterns.

HYPOTHESIS 3 – Impulse Spending

H_{03}: UPI does not influence impulse buying

H_{13}: UPI increases impulse buying

Survey Findings

- Spend more due to UPI – 69.84%
- Same spending – 23.80%
- Spend less – 4.76%
- Not sure – 1.58%

Impulse buying admitted – 68.25%

Chi-Square Explanation

If UPI had no effect, responses would be evenly distributed.

Instead, a large majority admitted increased spending due to quick payments.

Decision

Chi-Square value significant → Reject H_{03} UPI increases impulse buying.

HYPOTHESIS 4 – Dependency on UPI

H_{04}: Students are not dependent on UPI

H_{14}: Students are dependent on UPI

Behaviour Indicators

Carry very little cash – 41.93%

Fully dependent on phone – 25.80%

Faced issues during failure – 92%+

Chi-Square Explanation

If students were not dependent, most would carry cash backup. Instead, the majority rely heavily on their phones.

Decision

Chi-Square significant → Reject H_{04}

Students are strongly dependent on UPI.

4.3 Key Behavioural Insights

- 76% of students use UPI 3+ times daily
- UPI dominates micro-transactions
- Budget tracking is inconsistent among students

4.4 Final Outcome of Hypothesis Testing

Hypothesis	Result
Platform preference exists	Accepted
UPI influences spending patterns	Accepted
UPI increases impulse buying	Accepted
Students depend on UPI	Accepted

4.5 Conclusion

The statistical analysis confirms that UPI has become deeply embedded in student life. While the technology offers unmatched convenience and speed, it also encourages frequent transactions, impulsive spending, and a strong dependence on digital payment systems. The real challenge is no longer

adoption of digital payments, but developing financial discipline in an increasingly frictionless spending environment.

V. FINDINGS, SUGGESTIONS AND CONCLUSION

This chapter summarizes the key insights derived from the data analysis and provides practical suggestions based on the research findings. The objective is to connect the statistical results with real-life implications for students and digital payment users.

5.1 Major Findings of the Study

Based on the analysis of responses collected from 64 college students, several important behavioural patterns regarding UPI usage emerged.

1. UPI has become the primary mode of payment

The study clearly shows that UPI is now the most commonly used payment method among students. A large proportion of respondents use UPI multiple times a day for small everyday transactions such as food, travel, and bill payments. Cash is increasingly becoming a secondary or backup payment method rather than the primary one. This indicates a strong shift toward a cash-light lifestyle among students.

2. Strong preference for specific UPI applications

Students do not use all UPI apps equally. The majority of respondents showed a clear preference for Google Pay and PhonePe. This preference is influenced by factors such as ease of use, trust, speed of transactions, and wide merchant acceptance. The findings confirm that brand familiarity and user experience play a major role in app selection.

3. UPI is mainly used for daily lifestyle spending

The study found that the highest share of UPI transactions is related to food and café purchases. This shows that UPI is primarily used for small, frequent, everyday payments rather than large or occasional purchases. UPI has therefore become a tool for managing daily micro-transactions.

4. Increase in impulse spending behaviour

One of the most important findings of the study is that a majority of students admitted that they spend more after adopting UPI. Because digital payments are quick and effortless, students often make spontaneous purchases without much planning. The removal of the physical act of paying reduces the "pain of paying," encouraging faster spending decisions.

5. Growing dependency on digital payments

The research revealed a strong dependency on UPI among students. Many respondents carry very little cash and rely almost entirely on their smartphones for payments. A large percentage of students reported facing difficulties when UPI servers fail or internet connectivity is poor. This indicates that digital payments have become deeply integrated into students' daily lives.

6. Weak budgeting and expense tracking habits

Although students frequently use UPI, many do not regularly track their expenses. Digital payments make spending feel less visible, which can lead to poor financial monitoring. This highlights the need for better financial awareness and budgeting practices among students.

5.2 Suggestions and Recommendations

Based on the findings, the following suggestions are proposed:

1. Promote financial literacy among students

Educational institutions should organize workshops on digital financial management and budgeting. Students need to understand how frequent small digital payments can accumulate into large monthly expenses.

2. Encourage the use of budgeting tools

UPI applications can introduce or promote features such as:

- Monthly spending summaries
- Category-wise expense tracking
- Spending alerts and reminders

These features can help students develop responsible financial habits.

3. Maintain a balance between cash and digital payments

Students should be encouraged to carry small emergency cash to avoid inconvenience during server failures or network issues. This will reduce over-dependence on digital systems.

4. Awareness about impulse spending

Students should be made aware of the psychological effects of frictionless payments. Understanding how easy payments influence

spending behaviour can help them make more mindful financial decisions.

5. Scope for future research

Future studies can explore:

- Comparison between students and working professionals
- Long-term impact of UPI on savings behaviour
- Relationship between digital payments and financial stress

Overall Conclusion of the Study

The study confirms that UPI has significantly transformed the financial behaviour of college students. Digital payments have become a daily habit due to their speed, convenience, and accessibility. However, this convenience also brings challenges such as increased impulse spending, reduced cash usage, and growing dependency on digital systems.

The key takeaway from this research is that the challenge is no longer the adoption of digital payments but developing financial discipline in a frictionless payment environment.

UPI has made payments faster and easier — the next step is ensuring that students learn to spend more consciously and responsibly.

REFERENCES

[1] Dahiphale, D., Madiraju, N., Lin, J., et al. (2024). Enhancing Trust and Safety in Digital Payments: An LLM-Powered Approach. arXiv.

[2] Singh, N., & Sinha, N. (2023). Understanding Consumer Adoption of UPI in India: An Extended TAM Approach. Journal of Financial Services Marketing.

[3] Sharma, R., & Joshi, P. (2023). Digital Payments and Spending Behaviour Among Youth in India. International Journal of Bank Marketing.

[4] Gupta, A., & Arora, N. (2022). Impact of COVID-19 on Digital Payment Adoption in India. Journal of Public Affairs.

[5] Dzang Alhassan, M., & Butler, M. (2021). Digital Resilience and the Continuance Use of Mobile Payment Services. Electronic Commerce Research.

[6] Sinha, M., Majra, H., Hutchins, J., & Saxena, R. (2019). Mobile Payments in India: The Privacy Factor. International Journal of Bank Marketing.

[7] Kumar, A., & Dahiya, R. (2018). Customer Acceptance of Mobile Payment Systems in India. Journal of Internet Banking and Commerce.

[8] Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile Payment: Understanding the Determinants of Customer Adoption and Intention to Recommend. Computers in Human Behavior.

[9] Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, Present and Future of Mobile Payments Research: A Literature Review. Electronic Commerce Research and Applications.

[10] Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User Acceptance of Information Technology: Toward a Unified View (UTAUT Model). MIS Quarterly.