

Assessing the Digital Payment Adoption Trends among College Students Through an Extended TAM Model

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Abstract: This study examined the trends with respect to digital payment adoption of college students using an adapted TAM. In particular, this study concentrated on college students in the Delhi NCR region examining the impact of three primary independent variables, Perceived Usefulness (PU), Perceived Ease of Use (PEOU) and Trust & Security (T&S) on Behavioral Intention (BI) with respect to Attitude toward usage, an intervening variable. This study used a quantitative descriptive exploratory research design using a structured questionnaire with 200 college and university students who were selected using stratified random sampling. The researchers then used SPSS and MS Excel to analyze the data using descriptive and inferential statistics which included regression and ANOVAs. The results showed PEOU had the largest positive and statistically significant influence on BI indicating that the students' interactions with digital payment systems, and how easy students can use digital payment systems, plays a primary role (central position) for the student's behavior of accepting those digital payment systems. This research considering an university student population that is digital natives in a global contemporary society which has improved the explanatory power of TAM by acknowledging the students' relative experience.

Keywords: Digital Payment Adoption, College Students, PU, PEOU, Trust and Security, Behavioral Intention

1. Introduction

A digital payment is one that uses a digital device, like a smartphone or a personal digital assistant, to communicate payment information and instructions. The global adoption of digital payments has risen during the past year (Sahi et al.,2022). The recent advancement of the internet has facilitated the proliferation of this payment method, as electronic commerce has generated new financial requirements that old payment methods could not adequately address. The rise may be ascribed to economic and technological improvements of the internet, the proliferation of social networking, the increase in mobile phone users, the expanded use of electronic currency, and the rising prevalence of credit card services (Khan et al., 2017). The advancement of mobile devices and e-commerce has propelled the expansion of the global mobile payment industry (Wei, et al., 2021). There are a number of benefits to using mobile payment services rather to more conventional forms of payment, which rely on fixed locations and rely on wireless communication technology. Besides the rapidity and simplicity of its purchasing mechanism, M-payment services enable customers to encrypt transaction data, thereby enhancing their dependability (Yang et al., 2023).

The digital transformation of financial services has significantly altered the landscape of transactions, particularly with the rapid expansion of digital payment systems. These systems have not only disrupted traditional banking practices but have also emerged as a cornerstone of financial inclusion, convenience, and cashless economies worldwide. Among the various demographic segments, college students represent a unique and influential group in the adoption and diffusion of digital payment technologies due to their high digital literacy, tech-savviness, and frequent engagement with mobile and online platforms (Gomber et al.,2018). The integration of digital payment modes such as Unified Payments Interface (UPI), mobile wallets, QR code-based payments, and net banking has become increasingly prominent in their daily financial transactions. Governments and fintech companies have also played a critical role in promoting digital payments through

policy initiatives, awareness campaigns, and user-centric innovations. In the Indian context, especially post-demonetization and during the COVID-19 pandemic, digital payment adoption witnessed exponential growth, reshaping consumer behavior, including that of the student population (Yadav, P., et al.,2023).

The advancement of electronic payment systems, propelled by innovations in information technology has revolutionized financial transactions by enabling the exchange of goods and services without physical currency. These electronic payment instruments provide many administrative benefits for governments, organizations, and economies, diminishing transaction costs for financial institutions and strengthening e-commerce, therefore improving trade on both local and international levels (Masihuddin et al., 2017).The advancement of digital technology has emerged as a disruptive force that has transformed contemporary civilization. During the Industrial Revolution 4.0, which is progressing towards Society 5.0, advancements in information and communication technologies have influenced not just the macroeconomic sector but also individual economic behavior (Triwanti, & Mira, 2025).

The digital economy is moving quickly these days, and payment systems have evolved from cash systems to digital payment systems. Digital payment systems are taking the place of cash systems, and college students - a young, flexible, and technologically-capable group - are playing a significant role (Mahesh, & Bhat, 2022). The emergence of mobile wallets, QR code-based payment systems, UPI, internet banking, and contactless cards are helping to accelerate the use of digital payments among college students. The move to cashless payments by college students is also being supported both nationally and even globally with the push for cashless systems, such as in India with the initiative Digital India. To develop appropriate financial inclusion programs and improve digital literacy, it is important to understand how, why and what influences college students to adopt digital payment systems (Miftahuddin, 2025).

Although digital platforms have gained considerable traction and adoption, there are still a number of barriers, including concerns over cybersecurity; trust issues; lack of infrastructure; and issues surrounding digital literacy, which is particularly problematic amongst semi-urban and rural students. There was a spike of use of digital payments during the COVID-19 pandemic amongst students (Bednarz et al.,2024). There are additional considerations—university students' use of these platforms may also be influenced by socio-economic background, gender and support from institutions and ideals ascribed toward the uses of money and technology. Universities may be able to assist students using and adapting to digital literacy by persuading them about app-based payment tweaks to campus life which will likely have some impact on their financial behaviours (Johnston, 2020). However, despite the increasing usage, the patterns, motivations, and barriers influencing digital payment adoption among college students remain underexplored. Factors such as PU, PEOU, T&S, and social influence may significantly determine their behavioral intention to adopt and continue using digital payment systems. Understanding these determinants is vital for policymakers, educational institutions, and digital payment providers to enhance user experience, ensure financial security, and promote financial literacy (Dimitrova, I., et al.,2022).

The TAM is a well-established and rigorous framework for forecasting the determinants of technological uptake. The TAM model posits that an individual's desire to embrace new technology is substantially influenced by their impression of its utility and ease of use. The perception of usefulness illustrates the ways the company's perception of the usefulness of technology improves its performance (Najib, & Fahma, 2020).There are theoretical frameworks in the field such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) that provide theoretical constructs to examine these patterns of behavior in relation to variables such as perceived usefulness, perceived ease of use, and social influence (Williams et al.,2015). However, the students' unique context—balancing multiple competing academic demands, financial dependence on parents, and social influences—means that an analytical framework is required that may differ from prior research in technology adoption. Additionally, privacy concerns, issues of data usage, and ethical issues with fintech applications are becoming more pressingly relevant, as digital platforms will be drawing on immense amounts of student data to customize and market fintech offerings (Dwivedi et al.,2019).

This study aims to measure university students' adoption behaviour of digital payment systems among college students in the Delhi NCR region using an extended TAM. This study measures the impact of PU, PEOU, and trust & security on behavioural intention and mediating role of attitude towards usage. The study is aimed at a young technology-savvy population and the study may offer some understanding and insight into digital payment behaviour specific to students and higher education (institutional) environment. This study contributes valuable information for policymakers, Higher education institutions and fintech developers who seek to improve digital literacy, increase financial inclusion, and to build/deliver user-centric digital payment systems for student populations. Importantly, the research extends the existing TAM related literature with knowledge on external variables and mediation effects regarding to the student context - outputs which improve the understanding of the TAM variables and could result in an extended model for developing digital economies.

The paper is divided into seven sections. Section 1 comprises the introduction of the document. A literature review and hypothesis comprised under section 2 of the paper. A research methodology is examined in Section 3. The results are discussed in Section 4. The empirical findings and discussion have been provided in detail in section 5. Section 6 contains conclusions, implications, limitations, and recommendations for future research. References have finally been included.

2. Theoretical Background and Hypothesis

E-payment systems enhance consumption and gross domestic product (GDP) by reducing transaction costs, optimizing financial intermediation, fostering financial transparency, and elevating national performance (Al-Sabaawi M. Y. M., et al.,2023).E-payment systems have achieved considerable global popularity, however their acceptance among university students varies. Comprehending the determinants of e-payment reluctance is essential for improving financial inclusion and digital literacy among this group. The study has emphasized the necessity of mitigating e-payment hesitation among university students owing to its ramifications for financial inclusion and digital literacy (Sidek, N. Z. M., et al., 2024).

2.1 PU and Behavioral Intention

PU is determined by how much people think a technology can improve their efficiency or enjoyment of life Bansah, A. K., & Darko Agyei, D. (2022). When it comes to online payment systems, PU is a strong indicator of future actions Namahoot, K. S., & Jantasri, V. (2023). On the other hand, Hasan, A., et al.,(2024) revealed that Indian youth college students are more inclined to use digital payment platforms when they consider them as beneficial due to their facilitation of time efficiency and comfort.

Moreover, the study conducted by Humbani, M., & Wiese, M. (2019) established that the students' usefulness perceptions had a substantial influence over their continued usage intentions of mobile payment applications in urban Indian institutions. In addition, Lu, J. (2014) stated that PU also had a mediating influence with other external variables like social influence or personal innovativeness. Furthermore, during the COVID-19 pandemic, the perceived safety and hygiene of digital payments as opposed to cash, even further enhanced perceptions of usefulness, this increased acceptance among students Zhao, Y., & Bacao, F. (2021). Therefore, the following hypothesis was proposed:

Hypothesis 1: PU has a significant impact on BI to adopt digital payment systems among college students.

2.2 PEOU and Behavioral Intention

PEOU is defined as the extent to which a user perceives that utilizing a specific system would require little effort Abdullah, F., et al.,(2016). PEOU serves as both a direct, determinant of behavioral intention and a precursor to perceived usefulness. Several empirical investigations demonstrate the significant impact of PEOU with respect to the intention to adopt digital payments, especially amongst technology-enhanced groups such as college students Dubey, P., & Sahu, K. K. (2022).

A study conducted by Schilling, H., et al.,(2024) indicated that navigational ease, intuitive interfaces, and fast onboarding were also essential and significant factors in students' decision to adopt digital payment applications. Hu, P. et al.,(2017) studied the ease of use minimizes user's cognitive load freeing users to focus on the benefits of using the service instead of the complexities of using the service. A study conducted by Chakraborty, D., et al.,(2022) demonstrated that ease of use of mobile payment apps infused students' trust to recommend and continue using the app. Countries like India, adopting UPI-based systems, like PhonePe, Google Pay, and Paytm enjoy a relatively easy interface and faster transactions; reasons cited by users' as they influenced their adoption behavior Malik, G., & Singh, D. (2022). Gamification elements provided by some digital payment applications and cashbacks also lessen the user's psychological resistance to usage while bolstering the perception of PEOU. Therefore, the following hypothesis was proposed:

Hypothesis 2: PEOU has a significant impact on behavioral intention to adopt digital payment systems among college students.

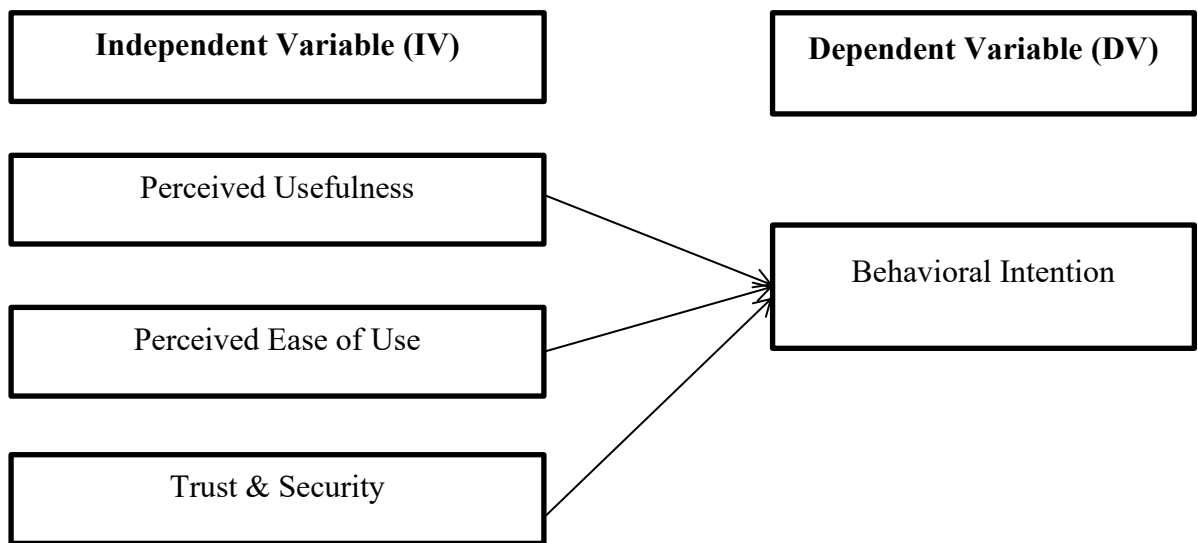
2.3 Mediating Effect of Attitude on Trust, Security, and Intention

While extending the original TAM, many researchers have considered external factors that influence a user's intention towards a specific user-end technology such as trust and security in respect to a product in the financial technology domain. Trust in a technology provider and perceived security of financial data are important for the intention to adoption create for students, who are often reticent to accept a digital privacy stance Anane, I., & Nie, F. (2022). However, these two constructs have either been reported as lightly influencing the intention to use or having an indirect impact on the user's intention via the user's attitude towards use.

Attitude toward usage denotes the user's favorable or unfavorable sentiment on the utilization of a specific system. User's attitudes are shaped by their trust in the digital platform's security and reliability, and in turn affect their adoption behavior and intention Zhang, W., et al.,(2023). Moreover Afzal, M., et al.,(2025) examined in the Indian context where digital fraud and breaches of data can impact student trust in payment systems. On the other hand Singh, A., et al.,(2021) found that Indian university students had heightened concerns surrounding their data privacy; however, when the students had a positive attitude toward innovation, and trust in the perceived credibility of the platform, the students' concerns were minimized. Students trusted the system, developed trust attitude toward it, which increased their BI to use it. The direct effect of this sequential process was demonstrated by Khan, W. A., & Abideen, Z. U. (2023) who used an SEM to establish attitude as a significant mediator between the variables of trust and security and behavioural intention of students to use mobile wallets. Therefore, the following hypothesis was proposed:

Hypothesis 3: T&S have a significant influence on college students BI to adopt digital payment systems.

Although prior research has yielded substantial insights into the adoption of digital payments through the TAM and UTAUT the majority of these studies have focused on general consumer populations or corporate users, with limited examination of user behavior among college students. College students are a unique population marked by high digital literacy, dependency on parents and guardians financially, and sociocultural diversity. PU and PEOU have been found to correlate with BI, but the role of attitude, especially regarding trust and security issues is under investigated in college students. Even though the COVID-19 pandemic has catalyzed digital payments, the sustainability of behavioral change after the pandemic and long-term formation of attitudes about digital payments has not been studied in sufficient detail. Therefore, college students should be explored further using an extended TAM model to address these gaps by utilizing mediating psychological variables as contextual factors and addressing user acceptance trends.



Research Model

3. Materials and Methods

3.1 Sample and Procedure

The study sample consisted of 200 respondents representing a diverse population of college and university UG and PG students attending college and university in the Delhi NCR region. A stratified random sampling design is used to ensure there is representation from different strata of gender, education level (undergraduate or postgraduate), and type of institution (private or public college or university). The stratified sample is crucial to capture a wide variety of user perceptions and behavioral tendencies about digital payment adoption.

3.2 Questionnaire Scale and Variable Measurement

This study utilizes a structured instrument to collect primary data from a sample of 200 college and university students in Delhi NCR. The students cover both undergraduate and postgraduate programs. The scale of the questionnaire and variables measured are affected by this study. Earlier it is said that trust and security, PEOU, and PU are all independent variables that are measured using multi-item measures. These multi-item scales are identified based on previously validated Technology Acceptance Model scales. The dependent variable, Behavioral Intention would be measured by multi-item scales as related to students' likelihood and willingness to adopt digital payment systems.

3.3 Data Analysis

College and university students in the Delhi NCR region are surveyed about their intentions to use digital payment systems. The study uses quantitative and qualitative methods to analyze the data. The opinions of 200 students are gathered through the use of a structured questionnaire and a stratified random sampling technique. Next, researchers use descriptive and exploratory methods to carry out the analysis. The data for the DV, BI, and its related independent variables, PU, PEOU, and (T&S), are best analyzed using descriptive and exploratory statistics, given the sample data comes from a variety of primary and secondary sources. Analytical procedures encompass inferential methods (such as regression analysis) and measurements of dispersion and central tendency (such as standard deviation and mean). The analysis of the captured data is performed using statistical tools, such as MS Excel and SPSS. Then, statistical analysis follows the interpretation of relationships and significance among multiple independent variables based on their influence on behavioral intention.

4. Results

Table 1: Demographic Variable

S.No	Demographic Variables		N	%
1	Age	17-19 Years	57	28.50%
		20-22 Years	53	26.50%
		23-25 Years	50	25.00%
		Above 25 Years	40	20.00%
2	Gender	Female	92	46.00%
		Male	108	54.00%
3	Educational Level	Diplomia/ Certificate Course	44	22.00%
		PHD or Research Scholar	49	24.50%
		Post graduate	61	30.50%
		Undergraduate	46	23.00%
4	Monthly Family Income	25,000-50,000	51	25.50%
		50,001-1,00,000	52	26.00%
		Above 1,00,000	44	22.00%
		Less than 25,000	53	26.50%
5	Place of Residence	Rural	78	39.00%
		Semi-Urban	49	24.50%
		Urban	73	36.50%
6	Frequency of Internet Use	Daily	49	24.50%
		Occasionally	49	24.50%
		Rarely	48	24.00%
		Weekly	54	27.00%
7	Digital Payment Usage Experience	1-3 Years	28	14.00%
		6 months -1 year	46	23.00%
		Less than 6 months	49	24.50%
		More than 3 years	48	24.00%
		Never Used	29	14.50%
8	Preferred Digital Payment Method	Debit/Credit Cards	38	19.00%
		Mobile Wallets	40	20.00%
		Net Banking	38	19.00%
		Other	40	29.00%
		UPI (e.g. Phone Pay, Google Pay, Paytm)	44	22.00%

This table indicates characteristics that describe the demographic variable from a sample size of 200 respondents (N=200). The characteristics of the sample were as follows: Age was 17-19 28.5% and 20-22 26.5%, there were slightly more males (54%) than females (46%). Educationally, the higher degree was post-graduate (30.5%) and next was PhD/research scholar (24.5%). Family monthly income was also spread out; relatively easily, with (26.5%) earning less than ₹25,000 and (26%) making ₹50,001 - ₹1,00,000. Most respondents were found to be living in a rural (39%) section of their local area or urban (36.5%), while the respondents were found to be relatively enthusiastic with the Internet; e.g., 27% utilized the Internet weekly. Although most respondents were relatively new to digital payments, e.g., 24.5% stated they had less than 6 months' experience using digital payments, while 14.5% had never utilized digital payments. Payment preferences (method) indicated UPI was at (22%) and Mobile wallets at (20%), however, paying with the Other category surprisingly rated (29%). To conclude, the overwhelming observation of the demographics is a sample of differing strategies of financial behaviour, liked with typical characteristics of internet capabilities and digital literacy.

4.1 Result based on Objectives

Objective1: To examine the impact of perceived usefulness on the behavioral intention of college students to adopt digital payment systems.

Table 2: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.165 ^a	.027	.022	3.74091
a. Predictors: (Constant), PU				

This table summarizes a regression model in which PU is used to predict an outcome variable. The model (labeled 1) has an R-value of 0.165 which tells you there is a weak positive relationship between the predictor and outcome. PU can only account for 2.7% of the variation in the DV, according to the R Squared value of 0.027. With an adjusted R-squared value of 0.022, which is extremely close to the R-squared value, the model's explanatory power is poor and remains constant regardless of the number of predictors included. The final number, 3.74091, is the standard deviation of the estimate and shows how far off the regression line is on average from the observed values.

Table 3: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.236	1	77.236	5.519	.020 ^b
	Residual	2742.910	196	13.994		
	Total	2820.146	197			
a. DV: BI						
b. Predictors: (Constant), PU						

An ANOVA table displaying regression data pertaining to the impact of PU on BI is provided. The regression model shows that PU explains a considerable amount of the variation in BI the significance level is F (1,196)

=5.519, $p = .020$. After dividing the total variation in BI the regression model accounts for 77.236 of it, while the remaining variance, which cannot be explained amounts to 2742.910. Model significance aside the regression model's sum of squares paled in comparison to the residual sum of squares; this suggests that PU's impact on BI is modest at best and that other predictors are probably responsible for the extra variance that the model fails to account for.

Table 4: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.949	1.261		11.859	.000
	Perceived Usefulness	.165	.070	.165	2.349	.020

a. Dependent Variable: BI

The table displays the outcomes of linear regression study including BI and PU. The consistent intercept value is 14.949 ($p < .001$). If the PU is 0, this estimate shows the predicted behavioral intention score. With a p-value of only .030, the unstandardized coefficient for PEOU is 0.165. Thus, behavioral intention rises by 0.165 units for every one unit increase in PU. With a beta value of 0.165 fir standardized coefficient, the effect magnitude is mild to moderate. Both are statistically significant ($p < .05$), the constant and the predictor. PU has a favorable influence on BI which is substantial.

Objective 2: To analyze how PEOU influences college students' BI to adopt digital payment systems.

Table 5: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.416 ^a	.173	.169	3.44984

a. Predictors: (Constant), PEOU

The table above summarized a model for regression analysis using PEOU as the predictor. According to the model, a modest positive association ($R = 0.416$) took place. With a R Squared value of 0.173, PEOU explains almost 17.3% of the variation in the result. With 0.169 for Adjusted R square, the model's predictor count is taken into consideration. Given the small number of predictors the fact that the Adjusted R Square indicated that overfitting is minimal. A measure of how accurately it could forecast real values, the standard error of the estimated is 3.44984. The table indicated the average actual distance of the observed values from the regression line. In general the model reveals a statically significant but small association with the outcome variables.

Table 6: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	487.478	1	487.478	40.960	.000 ^b
	Residual	2332.668	196	11.901		
	Total	2820.146	197			
a. DV: BI						
b. Predictors: (Constant), PEOU						

The ANOVA Table shows that according to the regression model using PEOU as a predictor, BI is substantially predicted ($F(1, 196) = 40.96, p < .001$). PEOU accounts for a significant amount of the variation in behavioral intention, as evidenced by the substantial regression sum of squares (487.48) compared to the residual sum of squares (2332.67). There is a strong correlation between the perception of PEOU and BI as indicated by the statistically significant p value ($p = .000$).

Table 7: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.007	1.096		10.042	.000
	Perceived Ease of Use	.393	.061	.416	6.400	.000
a. DV: BI						

The table displays the outcomes of the linear regression study that investigated the connection between PEOU and BI. With all other variables held constant the BI increases by 0.393 units for every one-unit increase in PEOU, according to the unstandardized coefficient of 0393. An impact size that is modest is supported by the standardized coefficient (Beta) of 0416. One reliable indicator of future behavior is PEOU. Finally, the predicted BI value when PEOU is zero is 11.007 which is intercept.

Objective 3: To assess the role of trust and security in shaping the behavioral intention of college students toward adopting digital payment systems.

Table 8: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.120 ^a	.014	.009	3.76571
a. Predictors: (Constant), T&S				

For regression analysis with T & S as the predictor variable, the model summary is shown in the table. A modest positive linear association between the predictor and dependent variables is indicated by the R value of only 0.014 and an adjusted R Squared value of only 0.008, it is clear that T & S provides only a little amount of explanation for the dependent variable. An average distance between the observed value and the regression line, as indicated by the standard error of the estimate (3.76571), implies that there is moderate inaccuracy in the forecast. All things considered, the model provides minimal explanation for the dependent variable's variability, indicating that T & S is not a very powerful predictor.

Table 9: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.754	1	40.754	2.874	.002 ^b
	Residual	2779.392	196	14.181		
	Total	2820.146	197			
a. DV: BI						
b. Predictors: (Constant), Trust & Security						

The ANOVA table supports that the regression model is statistically significant ($F = 2.874, p = .002$) with T&S predicting BI and accounting for a small part of the overall variance (Sum of Squares Regression = 40.754) in comparison to the total variance (Sum of Squares Total = 2820.146). The regression model is significant. However, the very large residual sum of squares (2779.392) indicates that T&S explains only a fairly small amount of the variation in BI and that there is a considerable amount of variance not explained by this predictor.

Table 10: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.919	1.166		13.652	.000
	Trust & Security	.109	.064	.120	1.695	.002
a. Dependent Variable: BI						

The table shows the results of the linear regression analysis of T&S on BI. The constant (or intercept) was 15.919 which is strongly significant ($p < 0.001$). The coefficient for Trust & Security was 0.109, which indicates with other factors held constant a one-unit increase in T&S leads to a 0.109 unit increase in Behavioral Intention. This relationship is statistically significant ($p = 0.002$) and the standardized coefficient (Beta = 0.120) indicates a small but meaningful effect. The t-values indicate both the intercept and predictor variable are statistically significantly predictors of BI in this model.

5. Finding and Discussion

5.1 Findings based on result

The study's results underscore critical factors affecting college students' inclination to use digital payment methods. The regression analysis reveals that perceived usefulness influences students' desire to adopt a digital payment system ($R^2 = 0.027$, $p = 0.020$); nonetheless, it functions as a poor predictor of student use behavior. Students acknowledge the utility of a digital payment system; yet, this recognition does not substantially influence their desire to use the services. The perceived ease of use had the greatest beta coefficient ($\beta = 0.416$). Although trust and security had a statistically significant effect ($p = 0.002$), their explanatory power was minimal ($R^2 = 0.014$), indicating that safe systems foster trust and depend on users to cultivate confidence, but are not critical prerequisites for adoption. In conclusion, usability is the paramount consideration, followed by perceived utility and trustworthiness/security. These conclusions indicate methods to improve usability in current digital payment systems while maintaining confidence and emphasizing utility, which might increase adoption rates among students.

5.2 Discussion

The shift to digital payment methods among students is affected by several cognitive, technical, and environmental factors. Previous research has shown PU and PEOU as significant motifs within the technology adoption model, particularly for technologies targeted at technologically competent people Ly, R., & Ly, B. (2024). As mentioned above, and unlike other consumer groups, college students are operating in transition as they generally possess economic dependence while also experiencing high levels of digital engagement (Gray, R., et al., 2013). The utility of mobile financial services in younger cohorts often related to utility, but also to social status and peer validation Krupa, D., & Buszko, M. (2023). Thus, the adoption of digital payments systems that include those available within app-based services and other examples of payments app may also be influenced by informal peer norms, and thus question whether the technology acceptance model as a research structure can be considered more socio-behavioral than within the technology adoption continuum Singh, S. K., et al., (2023).

Also, while the study acknowledges PEOU as a predictor, it is necessary to consider the different ways in which interface design and the aesthetics of platforms can shape youth adoption (Tsai, T. H., et al., 2017). Moreover Tu, J. C., & Jia, X. H. (2024) found that digital natives have an affinity for adopting financial technologies that provide some form of gamification, and are intuitive and/or personalized. For the participants from India, their knowledge of UPI in all its alternative interfaces, combined with its use in popular platforms including WhatsApp or Paytm, is allowing for an experience that creates little-to-no friction and rapid use Bartelt, N., et al., (2023). Thus, while PEOU is a strong predictor of use, it is also necessary to broaden how we think of PEOU beyond the concept of PEOU and, instead incorporate the experience and emotive elements of student's experiences using digital platforms Wong, J. T., & Hughes, B. S. (2023).

Moreover (Behera, R. K., et al., 2023) showed that trust is an important consideration when using fintech in Southeast Asia; however, among younger populations, trust is often assumed unless broken. This assumed trust way of approaching trust aligns with student behaviour that suggests that youth adoption of new applications happens quickly, then they abandon them quickly if there is any evidence of data misuse or payment failure. On the other hand suggest digital platforms need to be more responsible with transparent communication, user education, and trust mechanisms to try and maintain that audience. Therefore, trust is less about one-time encryption guarantees, and more about continuous engagement, and organizational legitimacy Tong, S. C., & Chan, F. F. Y. (2022).

Studies, such as Pozdeeva, E., et al., (2021) indicate that students not only consciously and/or unconsciously assess digital services according to usefulness, but articulate values such as privacy, financial independence, and technology-mindedness. Obviously, it is incumbent upon educational institutions and fintech developers to build awareness, develop ethical AI features, rapport, and make use of an experience expressly student-focused to promote sustained digital payments habits behavior (Glover, R. A., et al., 2024). Thus, the

current study reinforces renewed understanding of the TAM, not as a rigid model, but as a framework that is flexible, adaptive, and open to continual extensions to fit the complexities of today's digital youth (Al-Adwan, A. S., et al., 2023).

6. Conclusion

In conclusion, this research sheds light on the complicated relationship between technical and psychological aspects that influence college students' acceptance of digital payment systems by means of an expanded TAM. Perceived usability ranks highest in the model as a predictor of behavioral intention, followed by perceived utility and, to a lesser degree, trust and security. The correlations found in this study are significantly impacted by the students' perceptions regarding the payment systems. This study adds to the literature on TAM and addresses the variables of TAM within the context of student digital behavior. Furthermore, it highlights the need for policy and fintech actions to push secure, user-friendly, and youth-friendly digital payment platforms to promote financial inclusion and digital literacy among underserved populations.

6.1 Implications

The findings of this study have significant implications for higher education institutions, policymakers, and fintech developers looking to create a digitally inclusive ecosystem. Institutions for example can teach digital financial literacy in their classes and promote ease of use as students have a preference for speed, ease and security. Also, the discovery of limited explanatory power of trust and perceived usefulness suggests engaging students with gamification and social validation, as well as design intuition may be more effective than solely focusing on concerns around technical performance. Additionally, fintech needs to consider behavior specific to students; quickly away from using a platform for privacy and functionality based concerns, and creating adoption strategies by developing, well designed systems with adaptable inputs that ensure continuous student engagement while establishing trust. At the end of the day extending the TAM model demonstrates the importance of understanding contextual and psychological factors shaping digital payment behavior in order to construct better financial inclusion programs within higher education.

6.2 Limitations

This study has many limitations. Firstly, the subject of the study is college and university students from the Delhi NCR region which limits the ability to generalize the findings to the larger population, or to different regions of the country. Additionally, by using self-reported data from structured questionnaires, the risk of response biases, including social desirability bias and misunderstanding of structured questions, may contribute to the study's limitations. The cross-sectional study design limits the findings and the ability of the study to measure behavioural changes over time or through dynamic changes in technological or policy contexts (e.g., currently being the ever-evolving post-pandemic era). Furthermore, as acknowledged, the 200 respondents can be small for collecting inferential conclusions. Lastly, the study formed its findings by using a shortlist of predictors (PU, PEOU, and Trust & Security) and omitted psychosocial, cultural, and/or economic predictors that could be important in the adoption behaviour of digital payments.

6.3 Recommendations for future study

On the basis of the results, future research can build further on the new Technology Acceptance Model (TAM) with new socio-psychological variables including, but not limited to digital financial literacy, peer effects, perceived risk, and experience through gamification that seem to be pertinent in college students' digital behavior. Since the limitations of a quantitative study could only provide limited insights, mixed-method studies involving in-depth interviews or focus group studies could examine the context and emotional factors of students' adoption of digital payments. Longitudinal studies can also be productive in examining students' attitudes and behavior after the pandemic concerning account holders of fintech options and the evolving regulatory frameworks. Finally, future studies could compare urban and rural students' populations, including

across regions of India and other countries, which can help provide more generalization of the model across other cultures and refine the intervention framework for policymakers and educational institutions.

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