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**Research Article**

# "Behavioural Insights into Unified Payment Interface (UPI) Transactions: Linking User Perception and Adoption to Transaction Value".

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**ABSTRACT**

Now a days digital payments are common, Unified Payment Interface (UPI) is very popular for handling payments, transferring money, and managing financial activities. As mobile phones are common and digital knowledge is rising in Kerala, it is important to determine why people use UPI transactions regularly. The average payment made through Unified Payment Interface (UPI) each month is an indicator of how much customers use these facilities. This behaviour is influenced by what customers think and how they actually start using the product. Customer adoption is the practice of customers using Unified Payment Interface in their daily payments, and customer perception shows their opinions on how safe, dependable, and easy to use these systems are. Although someone might choose these facilities, its sustained use is determined by how satisfied they are with it. In Kerala, because culture, education, and regional differences affect how people use technology, learning how perception and adaptability affect a person's payment choices is very important. This study investigates the associations between Unified Payment Interface use, how people perceive the service, and the amount they pay monthly. The insights from the findings are meant to guide better digital payment practices among many different groups.

## 1.INTRODUCTION

Unified Payment Interface, or the UPI, has significantly transformed the Indian economy by promoting financial inclusion, boosting the digital economy, and fostering formalization. It has become a cornerstone of India's digital payment landscape, enabling seamless, secure, and convenient transactions for individuals and businesses. It is a revolutionary technology that has transformed India's financial landscape and has streamlined digital transactions significantly and has made money transfers more accessible and convenient[1]. Unified Payment Interface has not only made financial transactions fast, secure, and effortless, but it has also empowered individuals, small businesses, and merchants, driving the country's shift toward a cashless economy. This remarkable achievement highlights India's commitment to leveraging technology for inclusive growth and economic progress[2].

With the increase in demand of digital and cashless transactions worldwide, user's attitude related to Unified Payment Interface payment and its adoption has undergone a drastic change[3].

Scholars have extensively employed the idea and investigated many facets of Unified Payment Interface payment services, which are regarded as a universal payment solution for both merchants and end users and influence technological usage and behavioral intention. Various research have proved that consumers prefer a technology that provides fast, convenient and helpful services on a single platform. In this sense, Unified Payment Interface payment services represent a cutting-edge, multifunctional method that incorporates these characteristics and may be used with a mobile device.In this sense, payment services via the Unified Payment Interface represent a sophisticated multifunctional method that incorporates these capabilities and may be used on a mobile device.

Numerous mobile payment options are available for both in-person and remote payments is a technology that needs to be installed in the smart phone and allows customers to do online transactions directly from bank account and debit/credit card details . In the current study, our main objective is to understand the perception and adoption factors in determining the future payments through mobile wallets and Unified Payment Interface Platforms.

[1,2] www.federalbank.co.in
[3] https://www.npci.org.in/what-we-do/Unified Payment Interface/product-statistics

## 2.RESEARCH PROBLEM

In India, the Unified Payment Interface, or UPI, has a vital role in the transformation of digital payments. By enabling users to connect several bank accounts into a single mobile application, it serves as a real-time payment system that makes quick money transfers and other transactions possible. Through an intuitive interface, the Unified Payment Interface essentially simplifies the sending and receiving of money, bill payment, and online shopping processes. By bridging the divide between banked and unbanked populations, the Unified Payment Interface has advanced financial inclusion nationwide. The Unified Payment Interface is enabling millions of Indians to engage in the formal financial system by opening up digital transactions to a wider audience.

By facilitating cashless transactions and promoting the use of digital payment systems, UPI has made a substantial contribution to the expansion of India's digital economy. A more effective financial system and less reliance on cash have resulted from this greater adoption. Unified Payment Interface's promotion of digital transactions has reduced the scale of the black money circulation, raised tax revenues, and decreased the size of the informal sector. The Indian economy is becoming more open and accountable as more companies and people use digital payment systems. Better resource usage and governance have resulted from this.

The present study proposes to identify the amount the people plan to transact through this platform based on their perception and adoption level in Kerala.

## 3.REVIEW OF LITERATURE

This part of the study reviews and evaluates latest reviews in this field

1. **Impact of Growth of UPI on The Indian Economy** (March (2024)

. This study consist of an extensive analysis of the Unified Payment Interface (UPI) digital payment system and also describes its operations, technology, and stakeholders. The study also examines the advantages and difficulties of UPI, talks about the several UPI apps that are already on the market, and contrasts UPI transactions with those made using other electronic payment systems.

The research emhasizes the several benefits of UPI adoption, including increased financial inclusion, the encouragement of cashless transactions, and the support of conventional banking services. There are still issues with UPI's effects on cashless transactions and transaction speed, even though most respondents believe it improves financial inclusion and lowers black money. These results highlight the necessity of ongoing observation and calculated actions to resolve current issues and maximize UPI's advantages for all parties involved. Going forward, it will be crucial to maintain the progress and prosperity that UPI has enabled in India's developing digital economy by persistent efforts to raise awareness, bolster cyber security measures, and enhance user experience.

**2.The Impact of Unified Payments Interface (UPI) on the Indian Economy**(January 2025)

This paper employs a qualitative approach, combining secondary data from government reports, academic journals, and industry publications. It employs descriptive and analytical methodologies to measure UPI's macroeconomic impact.UPI has evolved as a cornerstone of India’s digital economy, boosting financial inclusion, enhancing transaction efficiency, and driving economic growth. While problems continue, targeted policy interventions and infrastructural expenditures might further increase its impact. UPI’s success provides a roadmap for other nations trying to use digital payment systems for economic development.

**3.Unified Payments Interface (UPI): A Digital Transformation In India (March 2023)**

The purpose of this study is to examine India's UPI payment system and its prospects within the digital payment ecosystem. Examining UPI's numerous applications, determining its adoption and usage rates in India, and examining its potential for use in digital payments are the goals of this study. Primary and secondary sources, such as literature reviews and internet questionnaires, were used to gather data. According to this study, UPI is now a widely used payment method in India, with rising rates of uptake and usage. With more growth, innovation, and adoption anticipated, UPI's future in India is bright. This study offers insightful information about UPI's potential in the ecosystem of digital payments and its contribution to India's goal of a cashless society.

**4. An In-Depth Analysis of The UPI Payment System In India**( December, 2023)

In India, a significant platform that enables online money transfers between two parties via a smartphone is the Unified Payments Interface (UPI). This creative approach improves payment systems' usability and accessibility and has a lot of promise for underdeveloped countries and rising markets. An increasing number of Indians are using the revolutionary payment method as UPI develops, which is driving.

s UPI develops further, more Indians are using this revolutionary payment system, which is helping India move forward with remarkable speed and advancement into the digital age. Research will also show the long-term social and sociological effects, such as financial inclusion, transactional trends, the rise in the use of digital payments, and their drawbacks and restrictions.comparison of UPI with other payment methods such as RTGS, IMPS, and NEFT, as well as UPI's prospects both domestically and internationally

**5.A Research Paper On "Unified Payments Interface: Emergence, Growth And Where it is Headed"** .( June 2024)
The history of the digital payment system and how it helped the Unified Payments Interface
Come into being were both examined in this study.UPIs performance since its establishment, the extent to which it impacts the economy, and the future prospects that should be anticipated According to this research, implementing such innovative payment methods in a nation with a population of 1.43 billion people demands a high degree of digital and financial literacy from the populace. This is a significant obstacle that UPI still needs to get past, but it cannot overshadow the tremendous progress it has made thus far

6.**Exploring The Exponential Growth of UPI In India: A Study On Digital Payment Transformation (2016-2024)** (October 2024)
With an emphasis on both transaction volume and value, this study examines the sharp increase in Unified Payments Interface (UPI) transactions in India between 2016 and 2024. Because it allows for real-time bank-to-bank transfers, UPI, which was developed by the National Payments Corporation of India (NPCI), has completely changed the digital payment scene. Particularly during the COVID-19 pandemic, which hastened the transition to contactless payments, UPI acceptance increased dramatically. Since its humble beginnings in 2016, when there were 2.65 million transactions totaling ₹893.07 crores, UPI has shown steady development in both volume and value. It is anticipated that the volume of UPI transactions will surpass 108 billion by 2024, with an annual value of ₹1,57,88,817.25 crores. This development trend demonstrates the platform's growing significance in facilitating high-value transactions as well as its growing integration across other sectors.
long with a comparison of growth phases across time, the report outlines the main factors that have contributed to UPI's growth, such as digitization, government policy, mobile penetration, and the platform's user-friendliness. The evolution of UPI from a peer-to-peer transfer tool to a full-fledged infrastructure for business, government, and retail payments illustrates its revolutionary influence on India's financial system.

## 4. OBJECTIVE

1. To predict the average monthly transaction amount through Unified Payment Interface (UPI )based on the perception and adoption level of customers in Kerala..

## 5. METHODOLOGY

The research adopts a systematic approach in problem solving through scientific investigation. The methodology comprises of survey based questionnaire designed to predict the level of usage of Unified Payment Interface

### 5.1.RESEARCH DESIGN , POPULATION ,SAMPLE
The study makes use of survey based research design. The population of the study comprises of all the people who uses Unified Payment Interface platforms for money transactions, and the sample consists of 650 peoples who uses the UPI s. Sample data was collected through convenient sampling method from all the districts from Kerala. The study was conducted within a period of three months.

### 5.2. DATA COLLECTION
Both primary and secondary data were used for the study, primary data was collected directly from users of UPI and secondary data from books, journals, annual reports ,periodicals, research articles and NPCI website.

### 5.3 DATA ANALYSIS AND PRESENTATION
Data analysis was accomplished using various tools like regression, multiple regression and ANOVA. These used to evaluate and to predict the Unified Payment Interface payments in Kerala.

### ANALYSIS
This study investigates the associations between Unified Payment Interface use, how people perceive the service, and the amount they pay monthly.
**Hypothesis:** Customer perception and customer adoption do not have a significant impact on the average monthly payment through Unified Payment(UPI).The purpose of the hypothesis is to check whether the amount people pay with Unified Payment(UPI) monthly is affected by customer perception and customer

adoption. As Unified Payment Interface are gaining popularity in Kerala, it is important to determine whether people are actually increasing their transactions as a result of having these features. This hypothesis was used to determine whether the number of monthly payments mobile wallets statistically depended on what customers thought and their level of use.

Table 1 Model Summary of Average Monthly Payment by Customer Perception and Adoption

Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .645[a] | 0.416 | 0.415 | 0.41056 | 1.848 |

a. Predictors: (Constant), Customer Adoption, Customer Perception

b. Dependent Variable: Average monthly payment through UPIs

Table 1 presents the model summary of a multiple regression analysis conducted to examine the influence of customer perception and customer adoption on the average monthly payment through UPIs. The R value of 0.645 indicates a moderate to strong positive correlation between the combined predictors (customer perception and customer adoption) and the dependent variable (average monthly payment). The R Square value of 0.416 reveals that approximately 41.6 percent of the variance in the average monthly payment can be explained by customer perception and adoption together. The Adjusted R Square, which accounts for the number of predictors in the model, is slightly lower at 0.415, suggesting that the model is a good fit with minimal overestimation. The standard error of the estimate is 0.41056, which indicates the average distance that the observed values fall from the regression line; a lower value suggests a more accurate prediction. Finally, the Durbin-Watson statistic is 1.848, which is close to the ideal value of 2, indicating that there is no significant autocorrelation in the residuals and the model assumptions are reasonably met. Overall, this model shows a meaningful and statistically acceptable relationship between the predictors and the dependent variable.

Table 2 ANOVA through Average Monthly Payment by Customer Perception and Adoption

ANOVA[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 77.843 | 2 | 38.921 | 230.910 | .000[b] |
| | Residual | 109.056 | 647 | 0.169 | | |
| | Total | 186.899 | 649 | | | |

a. Dependent Variable: Average monthly payment through UPIs

b. Predictors: (Constant), Customer Adoption, Customer Perception

Table 2 presents the ANOVA (Analysis of Variance) results for the multiple regression model examining the impact of customer perception and customer adoption on the average monthly payment using Unified Payment Interface. There is 77.843 of regression sum of squares, based on the two degrees of freedom which stands for the portion of the change in the dependent variable that is influenced by customer perception and customer adoption. The residual sum of squares is 109.056 and represents 647 degrees of freedom which means the model does not explain that part of the variation. The overall sum of squares which is the combination of regression and residual values, equals 186.899, showing the entire variation in the average monthly payment. The mean square is 38.921 which is obtained by dividing the regression sum of squares by its degrees of freedom. This is compared to the mean square of the residual (0.169) in computing the F-statistic, which was 230.910. Because the F-value is high, it means that the model fits the data better than any model with zero predictors. The significance value (Sig.) is .000, which is less than 0.05, indicating that the model is statistically significant and that customer perception and customer adoption together have a meaningful impact on average monthly transactions through UPIs .

Figure 1

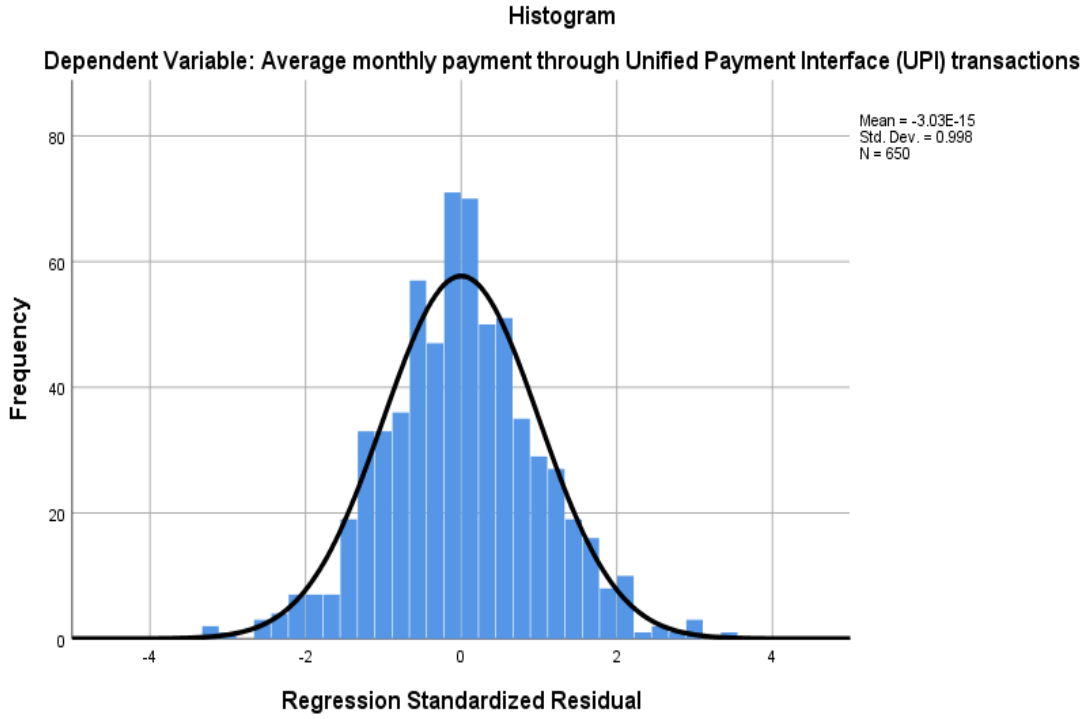


Figure 1 presents a histogram of the regression standardized residuals for the dependent variable, average monthly payment through UPIs. This histogram is used to assess the normality of residuals, which is a key assumption in multiple regression analysis. The distribution appears approximately symmetric and bell-shaped, closely resembling a normal distribution curve, as indicated by the overlaid normal curve. Most of the residual values are clustered around the centre (zero), with fewer values occurring at the extremes, suggesting that the errors are randomly and normally distributed. The mean of the residuals is nearly zero (−3.03E−15), and the standard deviation is approximately 0.998, both of which are consistent with the expectations of a well-fitting regression model. With a sample size of 650 observations (N = 650), the histogram supports the validity of the model assumptions, indicating that the regression model does not suffer from significant violations of normality in the residuals and thus can be considered reliable for inference.

Figure 2

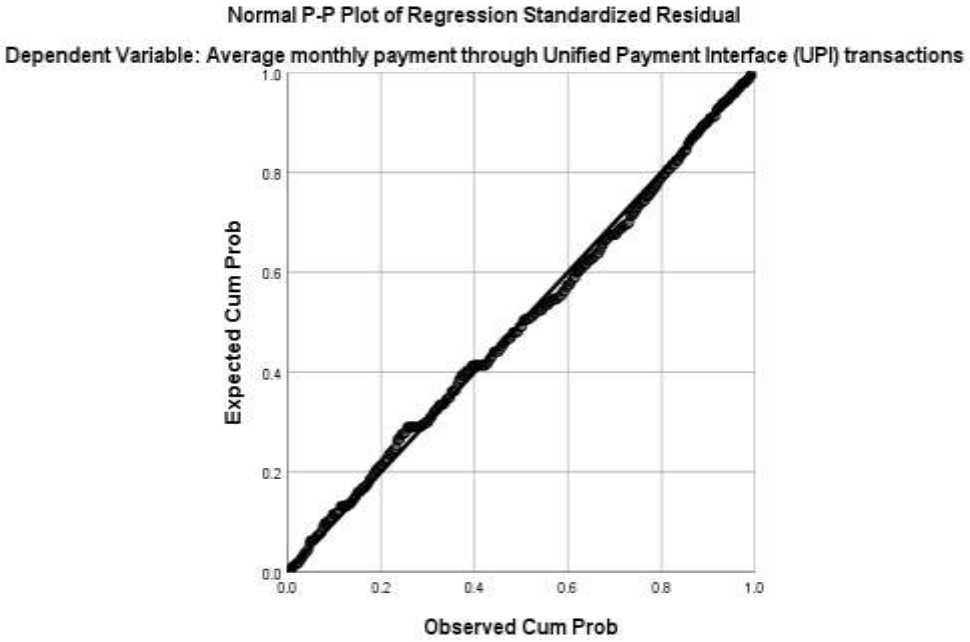


Figure 2 presents the Normal P-P (probability-probability) Plot of the regression standardized residuals for the dependent variable, average monthly payment through UPIs . This plot is used to assess whether the

residuals from the regression analysis follow a normal distribution, which is a key assumption in multiple regression. In the plot, the observed cumulative probabilities are plotted on the x-axis, and the expected cumulative probabilities from a normal distribution are plotted on the y-axis. If the residuals are normally distributed, the points will fall closely along the 45-degree diagonal line. In this figure, the data points lie very close to the diagonal line with only minimal deviation, indicating that the residuals approximate a normal distribution quite well. This supports the conclusion that the assumption of normality is reasonably satisfied, enhancing the reliability and validity of the regression model. The close alignment between observed and expected values strengthens the interpretation that customer perception and customer adoption are statistically valid predictors of average monthly UPI transactions in this study.

Figure 3

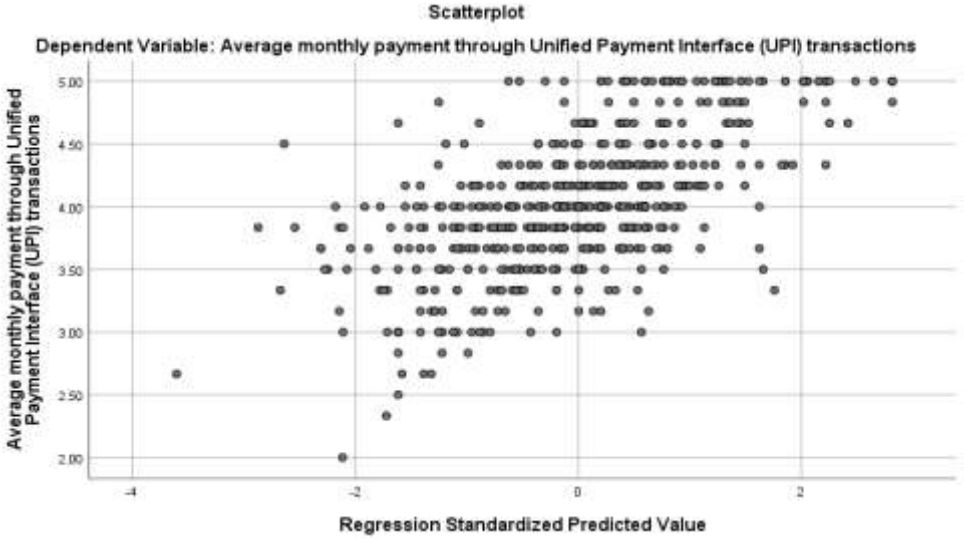


Figure 3 displays a scatterplot of the regression standardized predicted values against the observed values for the dependent variable, which is the average monthly transactions through UPIs. This scatterplot is useful in assessing the assumptions of linearity and homoscedasticity (constant variance of residuals) in a multiple regression model. The x-axis represents the standardized predicted values, and the y-axis shows the actual values of average monthly UPI transactions. From the plot, it can be observed that the data points are fairly evenly distributed across the range of predicted values without any clear pattern, funnel shape, or curvature, indicating a linear relationship between the predictors (customer perception and customer adoption) and the dependent variable. Additionally, the spread of points does not appear to systematically increase or decrease, suggesting that the assumption of homoscedasticity is reasonably satisfied. The consistency in the spread of data across the predicted values reinforces the validity of the regression model used in this study to explore the influence of customer perception and adoption on UPI usage behaviour in Kerala.

Figure 4

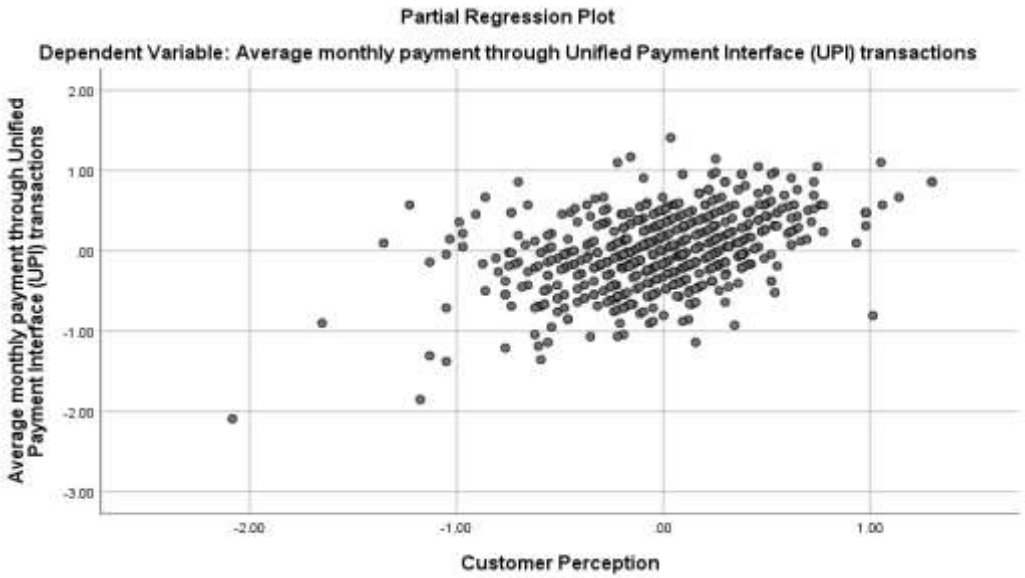

Figure 4 presents a partial regression plot that illustrates the unique contribution of customer perception to the average monthly transactions through UPIs , after accounting for the influence of other variables in the regression model. The x-axis shows the standardized residuals of customer perception, while the y-axis displays the standardized residuals of the dependent variable, both of which have been adjusted to remove the effects of other predictors. The pattern of points reveals a clear upward trend, suggesting a positive linear relationship between customer perception and UPIs usage. This means that individuals with more favourable perceptions of UPIs are likely to use them more frequently or for higher amounts. The concentration of data points around the fitted regression line indicates a reasonably strong association, implying that customer perception contributes meaningfully and independently to explaining the variation in UPI usage, even when other influencing factors are controlled for.

Figure 5

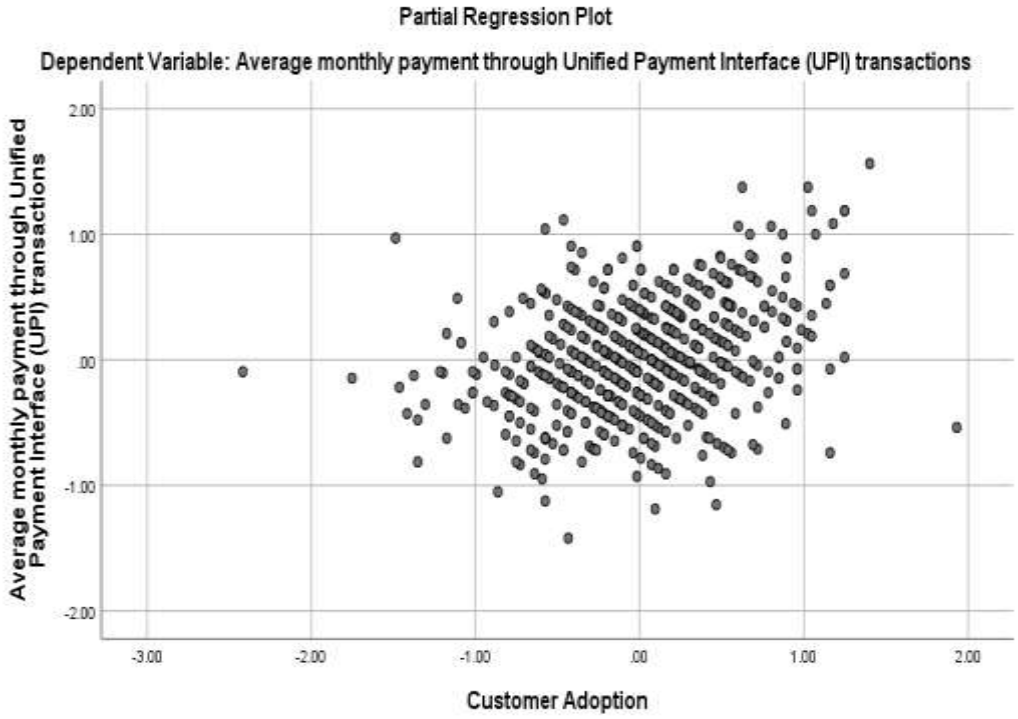


Figure 5 is a partial regression plot that depicts the individual impact of customer adoption on the average monthly transactions through UPIs , while statistically controlling for the effects of other independent variables in the regression model. The horizontal axis represents the standardized residuals of customer adoption, and the vertical axis shows the standardized residuals of the dependent variable, average monthly payment. The plot reveals a positive linear pattern, suggesting that higher levels of customer adoption are associated with increased usage of mobile wallets in terms of average monthly transactions. The clustering of points along an upward-sloping trend line indicates a meaningful and consistent contribution of customer adoption to the dependent variable, after removing the influence of other factors. This implies that customer adoption plays a significant and independent role in determining how extensively UPIs are used for monthly transactions. The relatively dense concentration of data points also supports the stability and strength of this relationship.

Table 3 Coefficient through Average Monthly Payment by Customer Perception and Adoption

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 1.159 | 0.134 | | 8.641 | 0.000 | | |
| | Customer Perception | 0.482 | 0.039 | 0.428 | 12.362 | 0.000 | 0.742 | 1.224 |
| | Customer Adoption | 0.285 | 0.031 | 0.315 | 9.108 | 0.000 | 0.753 | 1.328 |

a. Dependent Variable: Average monthly transactions through UPIs

Table 5.76 presents the results of a multiple linear regression analysis examining the impact of customer perception and customer adoption on the average monthly transactions through UPIs . The model includes two independent variables—customer perception and customer adoption—and the dependent variable is the average monthly transactions. The constant value of 1.159 indicates the baseline average monthly transactions when both predictors are zero. The un standardized coefficient for customer perception is 0.482 with a standard error of 0.039, suggesting that for each one-unit increase in customer perception, the average monthly transaction increases by approximately 0.482 units, holding other variables constant. Similarly, the coefficient for customer adoption is 0.285 with a standard error of 0.031, indicating that a one-unit increase in adoption leads to a 0.285-unit increase in the average monthly transaction . Both variables are statistically significant, with p-values of 0.000, demonstrating strong evidence that these predictors influence the dependent variable. The standardized coefficients (Beta values) reveal that customer perception (Beta = 0.428) has a slightly stronger effect than customer adoption (Beta = 0.315) on UPI s usage. The tolerance and variance inflation factor (VIF) values for both predictors are within acceptable limits (tolerance > 0.1 and VIF < 10), indicating no significant multi collinearity between the independent variables. Overall, the table suggests that both customer perception and adoption significantly and positively contribute to higher UPI transactions.

**Regression Equation:**

**Average Monthly Transactions = 1.159 + 0.482(Customer Perception) + 0.285(Customer Adoption)**

The regression equation, Average Monthly Transactions = 1.159 + 0.482(Customer Perception) + 0.285(Customer Adoption), clearly indicates that both customer perception and customer adoption have a positive and statistically significant impact on the average monthly transaction through UPIs . The coefficients show that for every one-unit increase in customer perception, the average monthly transactions increases by 0.482 units, and for every one-unit increase in customer adoption, transactions the increases by 0.285 units. These findings directly contradict the null hypothesis, which stated that customer perception and customer adoption do not have a significant impact on UPIs transactions. The statistical significance and strength of the relationship demonstrated in the regression results provide strong evidence to reject the null hypothesis, confirming that both perception and adoption meaningfully influence how much customers spend through UPIs.

## 6. FINDINGS

1. The study found that there is a strong positive correlation between the combined predictors (customer perception and customer adoption) and the dependent variable (average monthly transactions). With 41.6 percent of the variance in the average monthly transactions can be explained by customer perception and adoption together.
2. The study revealed that the change in the dependent variable that is influenced by customer perception and customer adoption and overall sum of squares which is the combination of regression and residual values, equals with186.899, entire variation in the average monthly transactions .
3. The study found that there is a unique contribution of customer perception and customer adoption to the average monthly transactions through UPIs , after accounting for the influence of other variables in the study. The pattern of points reveals a clear upward trend, suggesting a positive linear relationship between customer perception and adoption towards UPIs usage. This means that individuals with more favourable perceptions and higher levels of customer adoption of UPIs are likely to use them more frequently or for higher amounts.
4. The findings of the study shows that how consumer adoption and perception affected the average monthly Transactions made using UPIs. The average monthly Transactions is the dependent variable with independent variables: customer perception and customer adoption. When both predictors are zero, the average monthly transactions is represented by the constant value of 1.159 with a standard error of 0.039 .The study also found that, when all other factors are held constant, the average monthly transactions rises by roughly 0.482 units for every unit increase in customer perception. Similarly, a one-unit increase in adoption leads to a 0.285-unit increase in the average monthly transaction with a standard error of 0.031
5. The study revealed that customer perception (Beta = 0.428) has a slightly stronger effect on UPI usage than customer adoption (Beta = 0.315).
6. **Regression Equation: Average Monthly Transactions = 1.159 + 0.482(Customer Perception) + 0.285(Customer Adoption)**.The coefficients shows that for every one-unit increase in customer perception, the average monthly transactions increases by 0.482 units, and for every one-unit increase in customer adoption, there will be an increase by 0.285 units on UPIs transactions.
7.The study proving that consumer Transactions through UPIs (Unified Payment Interface) is significantly influenced by both adoption and perception.

## 7. CONCLUSION

To sum up, the Unified Payment Interface has made tremendous changes in how digital payments are handled in India. By offering a seamless, secure, and user-friendly platform for both consumers and businesses, the Unified Payment Interface has played a crucial role in promoting financial inclusion and speeding up the nation's shift to a cashless economy. Its remarkable growth in terms of both geographic reach and transaction volume illustrates its transformative impact on the financial sector. The Unified Payment Interface's continuous global expansion is strengthening India's increasing influence in the global financial arena, empowering citizens, enhancing economic prospects, and setting new standards for digital payments.
The present study carried in Kerala for predicting The Unified Payment Interface transactions among customers in future. The findings directly confirming that both perception and adoption meaningfully influence how much customers Transactions through Unified Payment Interface (UPIs) and also the significance and strength of the relationship between the variables.

## References:

1. Ms Manisha Tripathi, Mithul Bhat, Anubhav Chand, Nishith S Shetty, Naman Kothari,Varun Gowda R-March (2024),International Journal of Research Publication and Reviews, Vol (5), Issue (3), Page – 3633-3639 ISSN 2582-7421
2. Dr. Amaan Anjum January 2025-International Journal for Research Trends and Innovation 2025 IJRTI | Volume 10, Issue 1 | ISSN: 2456-3315
3. Dr. Deepa Baliyan, Dr. Neha Singh March 2023 IJCRT | Volume 11, Issue 3 | ISSN: 2320-2882
4. Zaiba Khan December, 2023 Research Gate ISSN: 2096-3246Volume 55, Issue 02,
5. Dr. Monika Shrimali, Dr. Swati Agrawal, Dr. Leena Jagawat, Dr. Vaibhav Patil June 2024 ShodhKosh: Journal of Visual and Performing Art 5(6), 1101–1109
6. Seena Mary Mathew, Dr. Shanimon.S, Sarvy Joseph, Dr. Minija Abraham October 2024 Article *in* Library Progress (International) ·www.federalbank.co.in
7. https://www.npci.org.in/what-we-do/Unified Payment Interface/product-statistics