

RELATIONSHIP BETWEEN E-SERVICE QUALITY AND CUSTOMER LOYALTY: A STUDY ON UNIFIED PAYMENT INTERFACE APPLICATIONS

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ABSTRACT

During the course of several decades, India's payment mechanisms have seen a significant transformation. The NPCI launched UPI, which is among the many brilliant, contemporary, and cost-effective innovations that have already made significant progress in the digitalization of the Indian economy. Mobile-based UPI applications are common and simple to use in the present trend of the digital and cashless economy, supporting a vast array of banking financial and non-financial services. As the number of UPI applications available on the online platform is large, there exists high competition to retain existing customers in this sector. So, companies must focus on implementing efficient and effective policies of service quality, customer satisfaction, and loyalty. The current study investigates the linkage between E-Service Quality and Customer Loyalty with regard to UPI applications. The present investigation examines the precision of e-service quality measurements in the background of UPI applications. The focus of the research is to pinpoint the elements that attract users of UPI applications and foster greater user loyalty in Kerala. Through the use of a structured questionnaire and a non-probability sampling technique, data are gathered. According to the survey, a significant positive association exists between e-service quality and customer loyalty among UPI applications.

Keywords: E-Service Quality Unified Payment Interface, Customer Loyalty.

Introduction

The Web Revolution, one of the most significant events in human history, occurred in India over the past ten years. The way that business is conducted in nearly all sectors has altered as a result of the quickly expanding use of the web, the internet, intranets, and extranets, as well as e-business or e-commerce and m-commerce (Kaur, 2018). The internet has had a tremendous impact on transforming the banking landscape as a result of the quick advancement of technology. It offers a platform for online banking transactions that enables a variety of services, including online bill payment, online fund transfers, online stock trading, online shopping, etc.

E-banking, or electronic banking, is the use of computerized platforms to offer financial services through an internet connection or other publicly or privately owned network to consumers, businesses, and other financial institution users. The advantages and ease of e-banking increased its attractiveness to younger generations. E-banking will soon overtake traditional banking as the preferred method, not just an acceptable one (Jindal, 2016). The main driver of the use of online banking in daily life has been the growth of e-commerce and the internet in strengthening online security transformation and sensitive information. The move towards client involvement in financial services through technology, particularly the internet, has reduced expenses for financial institutions as well as customers who use the service whenever they want and from almost anywhere with an internet connection (Mishra N). Regarding technological and architectural advancements, In India, mobile banking has undergone drastic changes. The fact that there has been a steady increase in mobile banking customers is attributable to technology developments that have given customers faith in mobile banking and payments a boost. Though, in a growing country like India, where it is anticipated that the number of mobile users will increase dramatically, the complexity will also rise as a result of the customers' expectations for quick, efficient, and more secure mobile banking services (Dhamija 2017). Demonetization has created a special podium for the adoption of electronic payment for consumers in India. The government has extensively encouraged the usage of cashless transactions as part of the reforms that followed demonetization. As a result of demonetization, the use of electronic payment methods has skyrocketed. (Neema 2018). UPI is a modern payment gadget adopted in India by the NPCI that makes it even easier to send money between smartphones and feature phones. UPI, an authentic bank-to-bank payment system focused on mobile phones, has the potential to revolutionize and democratize digital payments in India (Gochhwal, 2017). We recognize that in recent times, there's been an enormous boom in smartphone users and penetration of the internet in rural areas. This enhances capacity for the adoption of UPI by Indian customers (Kakade 2017). The outburst of the coronavirus and related lockdown in the nation presented a chance for the operators of digital payments, with UPI taking the lead. UPI fared better than other online payment options during the 2020–21 budget, with more than 22 billion operations worth more than a trillion (Kuriakose 2022). On a global perspective, UPI applications are pushing economies to move toward a cashless society (Mitra 2008).

Since service quality has influenced how customers view online banking and eventually the way they communicate and conduct themselves with online services, every culture understands the importance of service quality (Raza et al., 2020). These days, services must not only be suitable for the purpose for which they are intended, but also meet or even exceed customer expectations. Service excellence enables businesses to set themselves apart from rivals, boosting sales and gaining market share. Additionally, it promotes repeat purchasing and brand loyalty; furthermore, favourable word of mouth draws in new clients (Miguel-Dávila 2010). Today, the majority of businesses prioritise keeping their current clientele. Customer retention and loyalty are crucial for sustained sales growth and the development of a brand's value. Increased customer retention can result in a steady expansion of the company's customer base, which is crucial during a period of slow sales development. Additionally, revenues accrued from each individual customer increase the longer they remain devoted to the company (Sirohi 1998). In order to promote repeat purchasing behaviour and cultivate customer loyalty, an organization ought to improve their goal of e-business deals from e-commerce and e-services transactions all the obstacles and disagreements that arise prior to and following transactions (Zeithaml 2000). Therefore, in this technological age, the significance of service quality has changed to e-service quality, and businesses should continue to concentrate on these changes. Customer service demonstrated a negative link with e-service quality, whereas website design, security, or privacy showed a good relationship (Rita et al., 2019). The perceived e-SQ metric might significantly improve an organisation's capacity to capture consumer perceptions about this crucial factor in online purchasing decisions (Zeithaml 2000). Additionally, it would enable analysts to research issues like website user loyalty and the calibre of online services. However, in a different study, customer service and website design were found to be substantial predictors of the quality of e-services, whereas security was not found to be significant (Blut 2015). The outcomes of various literature defining characteristics of e-service quality varied. In this respect, the research aims to investigate how customers perceive various e-service aspects of UPI applications.

Customer loyalty is encouraged as a strategy for managing client relationships. The risk associated with gaining a fresh client is significantly greater than the risk associated with retaining a current customer. Loyal customers may persuade their friends and relatives to buy products or services from a particular business or service provider, and they may also alter their minds before buying products or services from other businesses or service providers. (Nair 2022). Customer loyalty is not something that happens by chance; it is created through sourcing and design choices (Thomas & Tobe, 2012). According to a different study, service quality has a good indirect impact on customer loyalty even while it has a negligible direct impact. Customer satisfaction serves as an arbitrating factor among customer loyalty and service excellence at the same time. Studies on these variables have produced varying conclusions as well as distinctive connections in other populations or geographical contexts. Thus, there is a chance to learn about the connection between customer loyalty and e-service quality in a different geographical area. Therefore, the purpose of this research is to analyse the association between the quality of e-services and the loyalty of UPI app users in the state of Kerala.

Statement of the Problem

Cashless transactions and online payment methods are growing every day. The primary channels are E-Wallets and UPI applications. Google Pay, Phone Pay, Amazon Pay, and Paytm are the most widely used UPI applications. The COVID-19 pandemic has multiplied the use of contactless payments as well. Thus, even small vendors are using these payment applications to receive payments. There is now a more convenient way to send modest sums. With more and more people using UPI apps, it's clear that a strong focus on service quality is essential to a product's ultimate success. As the number of UPI applications available on the online platform is large, there exists a high competition to retain the existing customers in this sector. This research looks at the aforementioned issue in Kerala, specifically at the connections among E-Service Quality and Customer Loyalty in the background of UPI applications.

Objectives of the Study

1. To find out the perception of customers on E-Service Quality of UPI applications.
2. To evaluate the perception of customers on Customer Loyalty with regard to UPI apps
3. To study the relationship between E-Service Quality and Customer Loyalty on UPI apps.

Methodology of the Study

Descriptive and analytical in approach, the current study seeks to characterize the varied components of the research subject under investigation and the existing status of the problem. In this study, we use E-Service Quality as the independent variable and Customer Loyalty as the dependent variable to draw our conclusions. E-Service Quality is a benchmark for the quality of online banking services. The questionnaire used in this study to evaluate the quality of e-services is based on one originally developed by Sohn and Tadisina (2008), with minor adjustments made to fit the aims and context of the present investigation. Trust, individualized

communications, simplicity of use, website content and functionality, dependability, and rapidity of delivery are some of the qualities used to quantify e-service quality. Customer Loyalty is measured by adapting and modifying the model presented by (McMullan & Gilmore, 2003) to fit the context of UPI applications. Users of the UPI application throughout all of Kerala's districts are the exclusive population of this analysis. Using a non-probability sampling method, 75 samples were used to gather the data. Both descriptive and inferential statistics are used to analyse the gathered data. The data is analysed using several statistical methods such as mean scores, correlation, skewness, regression, ANOVA, and a one-sample T-test.

Data Analysis

Scale	Cronbach's Alpha
E-Service Quality	0.900
Customer Loyalty	0.821

Table 1: Reliability Statistics

Table 1 presents the reliability statistics of the identified scales. The acceptable reliability coefficient of Cronbach's Alpha is 0.70 (Nunnally, 1994). So, the scales and subscales identified were highly reliable.

Normality

The value of skewness of E-Service Quality and Customer Loyalty is 0.906 and 0.001 respectively, which lies between -2 and +2. To demonstrate a normal distribution, the value of the asymmetry between -2 and +2 is accepted (George, 2011). Therefore, in order to assess the study's hypothesis, parametric tests for inferential statistical analysis are used

Variable	N	Mean	SD	T value	DF	Std Error	P value	Inference @5% level of significance
E-Service Quality	75	4.17	0.453	22.41	74	0.052	<.001*	Significant
Customer Loyalty	75	4.37	0.442	26.70	74	0.51	<.001*	Significant

Table 2: Statistical significance of different variables

One sample t test

H₀ 1: The sample mean is not significantly different from the population mean.

T-tests on single samples were used to compare theoretical and observed means for both E-Service Quality and Customer Loyalty. Both E-Service Quality (M=4; SD=0.453) and Customer Loyalty (M=4.37; SD=0.442) deviate significantly from the population mean (M=3.00), as shown by the findings. These variables have estimated values of $t(74) = 22.41, p=.000$ and $t(74) = 26.70, p=.000$. We may conclude that the participants' views on E-Service Quality and Customer Loyalty are inconsistent with those of the population because all of the outcomes looked statistically significant.

Variable	F	P Value	Inference @5% Level of significance
E-Service Quality	1.433	.232	Not Significant
Customer Loyalty	.840	.505	Not Significant

Table 3: Perception of users of different UPI apps on E-Service Quality and Customer Loyalty

H₀ 2: There is no significant difference between users of different UPI applications on E-Service Quality.

H₀ 3: There is no significant difference between users of different UPI applications on Customer Loyalty. There is no significant difference on E-Service Quality (p=0.232284) and Customer Loyalty (p=0.504700) between the users of different UPI applications. One-way ANOVA test also indicates that the perception of users of different UPI applications on E-Service Quality and Customer Loyalty has no significant difference as all the variables shows p value greater than 0.05. Thus, the result failed to reject the null hypothesis.

Values	F	P Value	Inference @5% Level of significance
E-Service Quality	1.704	.174	Not Significant
Customer Loyalty	.036	.991	Not Significant

Table 4: Perception of different experience users of UPI applications on E-Service Quality and Customer Loyalty

One-way ANOVA

H₀ 4: There is no significant difference in the perception of different experienced users of UPI applications on E-Service Quality.

H₀ 5: There is no significant difference in the perception of different experienced users of UPI applications on Customer Loyalty.

Users of UPI applications were grouped according to the year of experience in using UPI applications into four categorical variables viz., less than one year, one to two years, two to four years, and above four years. There was no significant difference in E-Service Quality (p=0.174039) and Customer Loyalty (p=0.990628) between different experienced users and it is not statistically significant.

Karl Pearson Correlation	.726**
P Value (2 tailed)	<.001
N	75

Table 5: Correlation between E-Service Quality and Customer Loyalty

**Correlation is significant at the .001 level (2-tailed).

H₀ 6: There is no significant relationship between E-Service Quality and Customer Loyalty.

Analysis of the correlation between E-Service Quality and Customer Loyalty is shown in Table 5. The aim was served by employing Karl Pearson's correlation coefficient. As shown by the findings, there is a strong positive correlation between E-Service Quality and Customer Loyalty (.726**). These findings suggest a favourable and statistically significant link between E-Service Quality and Customer Loyalty.

Model	Values
R value	0.726
R square	0.528
F value	81.502
P value	<.001**

Table 6: Regression summary

**Significant@1% level of significance

Tables 5 and 6 show the findings of a correlation and multiple regression analysis, respectively, which show a very strong correlation (.726**) between E-Service Quality and Customer Loyalty. Findings indicated an R-squared value of .528. This means that the quality of the e-service provided accounts for 53% of the variation in customer loyalty. There is sufficient evidence to establish that E-Service Quality is helpful for predicting Customer Loyalty (as indicated by a large F-value).

Findings and Discussions

Information was gathered through an online survey from the users of UPI applications in Kerala. A total of 83 survey questionnaires were administered, and after removing 8 invalid questionnaires, 75 usable responses were kept for investigation in this research. The fundamental characteristics of the samples are displayed in this section, including the most frequently used UPI application and years of experience with UPI applications, which are two important factors in this study. Within the overall sample, 81.3% of the respondents are using Google Pay, 12% of respondents are using Phone Pe, while 2.7%, 1.3% and 2.7% of the respondents are using Pay TM, Amazon Pay, and others respectively. To analyse the perception of groups having varying levels of experience with regards to E-Service Quality and Customer Loyalty a categorical variable was gathered based on how long they had been using UPI applications and it found that 34.7% of the respondents had been using UPI applications for one to two years, 33.3% of the respondents were seen to be using the same for two to four years, while 18.7% and 13.3% of the respondents were found to be using UPI applications for below one year and above four years respectively. Here we describe additional descriptive statistical analysis based on respondents' responses to the questionnaire. These consist of 18 E-Service Quality items, and five Customer Loyalty items. Every construct is scaled on a 5-point Likert scale. The results of means and standard deviations showed that respondents typically perceive high consensus on the measurement items with mean scores exceeding 4.17 for the construct of E-Service Quality. These fallouts appear to show that the respondents have positive evaluations that define trust, communication, reliability, ease of use, contents and functionality, and speed of delivery. These outcomes appear to show that the respondents were satisfied or amazed with their use of UPI applications.

The acquired data are extremely significant for extrapolating to the study population, according to the second step of data analysis using inferential statistics. The accuracy of the scales used in this research was evaluated using Cronbach's alpha coefficient. The coefficient alpha values were higher than the required at least of 0.7 (Nunnally, 1994), giving reliable estimations of internal consistency. Coefficient alpha values ranged .900 for E-Service Quality and .821 for Customer Loyalty. All constructs achieved a sufficient level of coefficient alpha above .70. Demonstrating the validity of the scales used in this study. The first null hypothesis is rejected by the one-sample t-test result, which deduces that the study subjects' perception of E-Service Quality and Customer Loyalty does not represent the population's perception. The outcome of the research demonstrates that there is no significant difference between users of different UPI applications on E-Service Quality and Customer Loyalty. In order to determine whether there is a statistically significant difference in how different classes of experienced users of UPI applications perceive E-Service Quality and Customer Loyalty, an important research question was posed for the study. The study's findings indicate that there is no statistically significant difference between the E-Service Quality and Customer Loyalty groups of experienced customers. Thus, a consumer's decision to use or plan to use more may not be influenced by their experience in using UPI applications. This study also discovered a strong positive correlation between Customer Loyalty and the quality of E-Services. In other words, the quality of E-Services affects UPI application users' Loyalty.

Conclusion

In the current trend of the digital and cashless economy, mobile-based UPI applications are ubiquitous and easy to use, supporting a variety abounding of banking financial and non-financial activities. Due to the vast number of UPI applications offered on the web platform, there is competition to keep the current clientele in this industry. To compete with the competitors, the companies must focus on implementing efficient and effective policies of service quality, customer satisfaction, and customer loyalty. As per the study, there exists a strong correlation among E-Service Quality and Customer Loyalty among UPI applications. The percentage of R-square that demonstrates how well e-service quality predicts customer loyalty is 53%. The findings of the study reveal that the strategic use of various innovative features may enhance the attractiveness of the services rendered by UPI applications and strengthen Customer Loyalty. However, this study is not free from limitations, which could be resolved on further studies by making suitable modifications. Non-probability sampling technique was employed in this investigation. Moreover, the study's sample is just the users of UPI applications in Kerala. These constraints serve to limit the generalizability of the research findings. Further researchers are advised to extend the scope of the study of other states and other e-services supporting applications in order to have a strong generalization.

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