Exploring Determinants of Digital Wallet Adoption: Utilizing the Technology Acceptance Model

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Abstract
The development of utility-oriented innovations and internet-based computer technology has significantly changed transactional procedures and communication. This article examines the technological acceptance model in order to investigate the factors that affect the adoption of digital wallets. Data from a structured, closed-ended questionnaire that was given to 410 participants in six different locations (Delhi, Noida, Ghaziabad, Greater Noida, Gurugram, and Faridabad) were analyzed using descriptive and multivariate statistical techniques. Although the study's narrow geographic focus limits how broadly the results can be applied, it nonetheless provides insightful information about the key factors influencing the adoption of digital wallets. This study explains the main elements influencing the popularity of digital wallets and provides useful insights into their adoption through a synthesis of statistical analysis and literature review.

Keywords: Digital Wallet, TAM, Technology Acceptance Model, Technology Adoption.

INTRODUCTION

The increasing acceptance of digital wallets, which has been driven by both user attitudes and technological improvements like greater smartphone usage and internet penetration, can be partially blamed for the fall in cash usage for everyday purchasing transactions (Rakhi, 2014). Digital wallet acceptance is aided by the widespread use of smartphones and simple access to the internet; yet, for technology-driven applications to succeed, user interest, influence, and motivation must be taken into account (Madan & Yadav, 2016). Digital wallets, which are regarded as one of the most significant inventions of the century, have given millions of people and businesses a new way to send and receive money (George & Kumar, 2014). The Reserve Bank of India (RBI) and National Payment Corporation of India (NPCI) released data recently that shows a record-high number and value of transactions made using digital wallets and UPI (livemint.com, 2018). This data is consistent with findings from other research reports that highlight the increasing popularity of digital wallets.

LITERATURE REVIEW

In other words, according to Au, A., Kauffman, & J. (2008), a digital wallet is used to finish and validate transactions that are started as a result of the sale and purchase of products and services. Digital wallets are smartphone-based financial applications accessible over the internet. Mobile payments are a brand-new category of payments brought about by digital payments. An alternative to transactions based on cash and cards is the use of digital wallets.

In his study article, Shin (2009) described how a digital wallet functions as an online electronic payment system that enables buyers and sellers to conduct transactions electronically through the use of a smartphone. As a result, digital wallets have replaced physical currency and wallets.

In their research paper titled "Mobile wallet: An upcoming mode of business transaction," Poonam & Shalu (2016) examined the advantages of wallet money, such as its easy-to-use interface, secure profile, and ease of handling applications. They also came to the conclusion that businesses in industries like banking, retail, hospitality, etc. are using wallet money and mobile payment methods like contactless and remote payment in customer-to-customer and customer-to-business settings.

Hemshwetha (2016) examined the factors that influence consumers' adoption of digital wallets as well as the risks and difficulties they face when using them. She came to the conclusion that consumers are adopting digital wallets primarily because they are straightforward, convenient, and easy to use, and that in the coming years, digital wallets will become more widely accepted.

According to T.N. Shukla's (2016) research, the rapid expansion of digital payments in India has been largely fueled by the country's growing smartphone and low-cost internet user bases. Nevertheless, other factors, like government initiatives and better infrastructure, have also had a catalytic effect on the sector. The government has implemented a number of initiatives, such as the elimination of surcharges and lower service or convenience fees for credit card and other digital transactions. Three main factors brand loyalty, ease of online shopping, and the utility of digital wallets—are crucial for customer acceptance.

According to Oliveira (2016), attitudes, perceived mobility, and trust all have a beneficial impact on the uptake of mobile payment systems. The majority of consumers are worried about mobile payment security, and those who utilize them do so for the quick payment options they offer.

RESEARCH OBJECTIVES

In order to explain particularly significant regions for the adoption of digital wallets, the research goal of this study is to use the technological acceptance model to investigate the factors that influence the adoption of digital wallets.

RESEARCH METHODOLOGY

Since this research study is primary, its findings are based solely on original data. A standardized, closed-ended questionnaire was employed in this study to directly gather data from individuals who routinely purchase online, offline, or through both. Data from 410 people are collected using a convenience sampling strategy that is non-probabilistic (sample size). Every item sought to investigate the variables influencing the uptake of digital wallets. The majority of the components were from the Technology Acceptance Model, or TAM. A few elements about risk and trust were provided in addition to the TAM items. These items were measured using a 5-point Likert rating scale. Using the first 50 responses, Cronbach's alpha was computed to assess the scale's reliability. Cronbach's alpha was discovered to have a standard acceptable value of 0.70. IBM-SPSS and Microsoft Excel were used for the data analysis.

RESULTS
RELIABILITY STATISTICS

Reliability Statistics		
Cases (N)	No of Items	Cronbach's Alpha
50	25	0.908

Table-1: Reliability Statistics

To confirm the legitimacy of the questions and the dependability of the scale structure, the first 50 replies were examined. For this, the Cronbach's alpha measure was employed. Cronbach (1970) defined an excellent measure as a value near 1.00 (Nunnally, 1978).

FACTORS ANALYSIS

A multivariate statistical technique called factor analysis is used to explore data and identify underlying patterns in the data. In summary, a factor is a representation of the fundamental dimensions that, in reality, cannot be represented explicitly but rather may be understood in terms of the connection between the variables that make up the facture structure. In this study, factor analysis using SPSS 20.0 is performed using the Principal Component Analysis approach using Varimax Rotation approach.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.849
Bartlett's Test of Sphericity	Approx. Chi-Square	5588.403
	df	300
	Sig.	.000

Table-2: Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity

The table 2 shows that the KMO measure of sampling adequacy value is 0.849, which is in the acceptance range and the data is appropriate for factor analysis. The Bartlett's test confirms the appropriateness of factor analysis.

Extraction Method: Principal Component Analysis

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.945	35.782	35.782	8.945	35.782	35.782	4.481	17.925	17.925
2	2.121	8.484	44.266	2.121	8.484	44.266	4.108	16.432	34.358
3	1.562	6.25	50.515	1.562	6.25	50.515	2.577	10.309	44.667
4	1.331	5.326	55.841	1.331	5.326	55.841	2.193	8.772	53.439
5	1.122	4.489	60.33	1.122	4.489	60.33	1.654	6.618	60.057
6	1.059	4.234	64.565	1.059	4.234	64.565	1.127	4.508	64.565

Extraction Method: Principal Component Analysis.

Table-3: Total Variance Explained

Six components have Eigen values equal to or greater than one, as the above table made evident. The total percentage of Rotation Sums of Squared Loadings indicates that these six components account for 64.565%, or nearly 65%, of the variance. The factors are represented by the Rotated Component Matrix in Table 4, which was generated using the Varimax rotation method.

DISCUSSION
STRUCTURE OF FACTOR-1

This factor can provide explanation for 17.925 % of the total common variance and therefore it is a major factor. Six variables of similar nature constitute this factor. All items of this factor are positive and have considerable loadings varying from 0.606 to 0.792. The internal structure of this factor is mentioned in below Table 5.

Factor-1	Factor Loading
Using a digital wallet would make it easier for me to make purchase	0.624
Using a digital wallet would make it easier for me to conduct transaction	0.628
I strongly recommend other to use digital wallet	0.606
Lack of awareness increase the risk perception of digital wallet	0.733
I trust company running digital wallet must installed system to safeguard my information	0.792
Implementation of robust cyber security framework increase trust in digital wallet	0.637

Table-5: Structure of Factor-one

STRUCTURE OF FACTOR-2

This factor explains 16.432% of the total common variance thus it is considered as second major factor. Ten variables comprise this factor. All items of this factor are positive and have sizeable factor loadings varying from 0.475 to 0.762. The internal structure of this factor is mentioned in below Table 6.

Factor-2	Factor Loading
Using a digital wallet would enable me to purchase more quickly	0.613
Using a digital wallet would improve my performance in conduction of transactions	0.537
I would find digital wallet useful in conducting my transactions	0.679
My friends think that I should use a digital wallet	0.762
I intended to use a digital wallet to store my credit and debit card information	0.538
Considering the amount of information I would have to put on digital wallet, it would be risky	0.567
The overall risk is very high	0.672
OTP and PIN protect digital wallet as risk proof mode of payment	0.475
Advisory on how to avoid risky transaction strengthen trust among users	0.51
Customer care efforts improve trust level	0.52

Table-6: Structure of Factor-Two

STRUCTURE OF FACTOR-3

The third major factor, factor-3, is responsible for 10.309% of the total shared variance. This factor's three positive variables have significant factor loadings ranging from 0.54 to 0.816. The following table 7 provides information on the items that make up this factor.

Factor-3	Factor Loading
Using a digital wallet would give me greater control over my credit and debit card	0.54
People who are important to me think that I should use a digital wallet	0.679
I will frequently use a digital wallet in future	0.816

Table-7: Structure of Factor-Three

STRUCTURE OF FACTOR-4

Approximately 8.772% of the total common variance can be explained by factor-4. This component, when combined with the other three, can account for 53.439% of the variance in the total. Even though this component accounts for the least variance when compared to the others, it is still a significant influence overall. This factor comprises three positive variables

with factor loadings ranging from 0.558 to 0.765. The following table 8 provides the item composition data that make up this component.

Factor-4	Factor Loading
Using a digital wallet is clear and understandable	0.765
I find digital wallet easy to use	0.558
For me loss of information and any other loss due to digital wallet is a great loss hence it is risky to use digital wallet	0.616

Table-8: Structure of Factor-Four

STRUCTURE OF FACTOR-5

About 6.618% of the total shared variation can be explained by factor-5. This component can account for 60.057% of the total variance when combined with the other four factors. This factor has two positive variables with factor loadings ranging from 0.6 to 0.745. The following table 9 provides the specifics of the item composition that make up this component.

Factor-5	Factor Loading
Using a digital wallet would improve the quality of my life because everything would be in one place	0.6
I can trust that the privacy is protected on digital wallet	0.745

Table-9: Structure of Factor-Five

STRUCTURE OF FACTOR-6

The composition of factor-six consists of just one variable. This indicates that while the variable is significant, it cannot be grouped with other variables. With a component variable factor loading of 0.836, this factor can account for 4.508% of the total common variation.

Factor-6	Factor Loading
Brand reputation build trust	0.836

Table-10: Structure of Factor-Six

CONCLUSION

Digital wallets are increasingly taking the lead as the most popular way to pay online. Because digital wallets are so convenient and simple to use, consumers are embracing them at a very quick rate. Tech-savvy consumers are searching for solutions that meet their growing demands for seamless, omni-channel shopping experiences. Without a doubt, 2016 will be a turning point in the acceptance of digital wallets.

The analysis's conclusions indicated that the adoption of digital wallets would be significantly influenced by six key criteria. The investigation concludes that the acceptance of digital wallets is largely driven by variables such as ease of use, recommendation, awareness, risk perception, security, trust, customer support, convenience, and privacy. In addition, these elements support the findings of the technological acceptance model together with a few other elements including privacy, security, and trust.

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