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A SEM ANALYSIS ON THE FACTORS INFLUENCING IN ADOPTION OF DIGITAL PAYMENT SYSTEM WITH REFERENCE TO MADURAI DISTRICT."

Faridha M.A. ,[1]Dr. Senthamarai Kannan A.T.[2]
[1]Assistant professor
Department of Commerce
V. O. Chidambaram College, Thoothukudi
Part-Time Research Scholar Ph.D Programme-Commerce
Madurai Kamaraj University, Madurai
[2.]Associate Professor & Head
Department of Commerce
Madurai Kamaraj University College
Madurai

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Abstract
A digital payment system is any financial transaction conducted online using electronic devices, such as a laptop, computer, or smartphone. The traditional banking system requires bank customers to physically visit the bank. Currency that is physically handled handling poses risks of theft, damage, exchange, and other issues. Alternative payment methods, also referred to as digital transactions, are crucial for avoiding dealing with the danger associated with actual currency. All retailers in both physical and online establishments adopted digital payment systems as a universally recognized form of payment. The very initial stage exposes the lending institution with unforeseen obstacles. using digital transactions. Even the residents of rural villages are sufficiently aware of electronic payment systems thanks to the Central Government and Reserve Bank of India's tireless efforts. The current study is titled "A SEM Analysis on the factors influencing in adoption of Digital Payment System with reference to Madurai District" because its main objective is to analyze the elements affecting the adoption of digital payment systems. The relationship between perceived usefulness and social influence, perceived ease of use and user-friendly transaction, perceived ease of use and trust, purpose of using digital transaction and perceived ease of use and purpose of using digital transaction and perceived is significant and positively associated with digital payment system.

Key Words:
Digital Payment System, Influencing Factors, SEM Analysis, Madurai District

1. Introduction

Digital payment systems were considered as universal accepted mode of money transactions, all merchants in physical and online stores were accepted digital mode of transactions. Regardless of the platform or device that the payers and payees utilize, it is a contactless and instantaneous payment system. Digital transactions simplify financial management by enabling users to access a variety of payment alternatives on a single device,

eliminating the need for various cards and personal identification numbers (PINs), and combining multiple payment methods into one. It is quick, dependable, safe, and simple to use. Security includes more than just safeguarding personal information from fraud and hackers; it also includes ensuring trustworthy payment authentication. Digital wallets are innovative digital payment methods that provide little or no fees. People typically want privacy when they spend money, yet physical transactions only offer a moderate amount of privacy.

2. Digital Payments

Digital payments are transactions that happen online or through digital platforms without involving a cash exchange. This indicates that electronic means are used for money transaction between the payer and the payee. The Indian government has been implementing a number of initiatives to support and encourage digital payments across the nation. The goal of the government's "Digital India" initiative is to establish a "digitally empowered" economy that is "Faceless, Paperless, Cashless." Digital payments can be made in a variety of ways.

2.1 Banking Cards

In India, the most popular digital payment method is banking cards. It has an excellent feature set that gives users both security and convenience. The ability to make various digital payments with cards gives you freedom.

2.2 USSD (Unstructured Supplementary Service Data)

Another widely used digital payment mechanism is USSD. There is no need to install any banking apps in order to conduct cashless transactions utilizing a mobile device. The advantage of USSD is that it functions without using mobile data.\

2.3 AEPS (Aadhaar enabled payment system)

AEPS can be utilized for all of the following banking operations:- Aadhaar to Aadhaar fund transfers, cash withdrawals, cash deposits, and balance inquiries.

2.4 UPI (Unified Payment Interface)

A user with a bank account can use a UPI-based app to send money to any other bank account utilizing UPI, the newest digital payment standard.

2.5 Mobile Wallets

Here, customers can use credit or debit cards to deposit funds to their virtual wallet, which they can then use to conduct digital transactions.

2.6 Point of Sale Terminals

PoS terminals are placed in shops or establishments where debit and credit cards can be used to make purchases.

2.7 Internet Banking

Using a smartphone, laptop, or desktop computer and an active internet connection, you can do financial operations from the comfort of your home with online banking.

2.8 National Electronic Fund Transfer (NEFT)

One-to-one money transfers are made possible via the National Electronic Funds Transfer (NEFT) payment system, which operates nationwide.

2.9 Real Time Gross Settlement (RTGS)

Real-time, continuous settlement of individual financial transfers on an order-by-order basis (without netting) is known as RTGS.

2.10 Immediate Payment Service (IMPS)

IMPS is a powerful tool for instantaneous money transfers between banks in India via mobile, internet, and

ATM. It is not only safe but also cost-effective from a financial and non-financial standpoint.

3. Benefits of Digital Payment System

Convenience

Swift payments made without cash using digital payments, which are simple to use and access. Without having to go to a bank or stand in line, you can send and money can be sent and received whenever needed.

Security

Thanks to features like encryption, fraud detection, and biometric authentication, digital payments are safer than cash.

Cost-effectiveness

Compared to traditional ways, digital payments may be less expensive.

Transparency: Real-time tracking of balances and transactions is facilitated by digital payments.

Global reach

Purchase from vendors in other nations using digital payments is possible.

Financial inclusion

Digital payments enable economic participation for those without access to traditional banking.

Speed & Integration

Instantaneous digital payments can save time for both the buyer and the vendor. It is simple to incorporate digital payments into current systems.

4. Limitations of Digital Payment System

Technical problems

Technical problems such as software flaws, glitches, and server outages might impact digital payments. Transaction errors or failures may result from these problems.

Risks to security

Fraud, identity theft, and other cybercrimes can affect digital payments. Payment information can be stolen by fraudsters using malware and phishing scams.

Transaction expenses

Fees for transactions may be imposed by banks and payment gateways, particularly when high-value transactions, debit or credit cards, or foreign payments are involved.

Dependency on the Internet

Stable internet connections are necessary for digital payments, but they could not be available in places with poor or nonexistent internet service.

Absence of anonymity

Compared to cash transactions, digital payments frequently necessitate the revelation of financial and personal information, which diminishes anonymity.

Protection of consumers

The degree of consumer protection provided by virtual payments might not match that of conventional payment methods. For instance, if a payment is made in error, it could be challenging to receive a refund.

5. Review of Literature

Mamta Brahmbhat (2018) have suggested, based on their research analysis, that word-of-mouth advertising has a greater influence on the dissemination of information than other strategies including social media, magazine, television, and government promotion. Therefore, businesses and the government should raise awareness by holding seminars and workshops on cashless society at workplaces, colleges, and schools, among

other locations. All schools, colleges, and other institutions may be required by law to offer at least one program during a given academic year. E-wallets are utilized for DTH or cellphone recharges. Online shopping ranks as the second most popular alternative among users. To boost the growth rate of e-wallets, the authority must make it mandatory to pay fees and file IT returns using them.

Hanumantharaya T and Rakesh Nadig H S (2019) have claimed in their research that electronic payments are now a practical way to make payments in the modern business sector. Its competency, appropriateness, and suitability are the reasons behind this. India joined other nations in the digital payment revolution, particularly in the financial sector, but has lagged behind in embracing other technology. E-payment is a modern method of leveraging an electronic network to make payments. Using security safeguards, electronic payments are sent from the payer bank to the payee. The role of digital payments has significantly increased after demonetization. E-payments have emerged as a complementary payment method to the conventional one. The electronic payment system is supported by Digital India initiatives, and a strong infrastructure for digitization must be established. This essay aims to comprehend the significance and degree of customer happiness.

Manocha et al., (2019) claimed in their research paper that the number of e-wallet transactions apparently risen from 17 lakhs per day to 63 lakhs per day after analyzing the data gathered from the field. Additionally, it was observed that even small market vendors began installing Point of Sale (POS) devices in their stores to take digital payments in a number of urban areas. Additionally, historical research and data clearly show that there are some significant obstacles and constraints that need to be fundamentally taken into account and resolved. Because the Reserve Bank of India is the source of the data evaluated for analysis, potential changes in this direction are becoming challenging.

Malusare Lalita Babulal (2019) have researched the idea of cashless transactions and digital payment systems, their effects, the benefits of cashless transactions, and the prospects and difficulties of e-payment systems in India. According to the researcher's findings, the digital payment system is simple for both bank employees and customers to use. The Indian financial system offers a number of possibilities, but many people in the country are not familiar with how to use it. Indians have a poor degree of digital literacy. As a result, digital payment systems are not fully developed and widely used in India. The use of digital payment systems is influenced by infrastructure and social constraints.

Pillai,Sruthy S., Sandhya.G, and Rejikumar.G (2019) They explain how the trend indicates that when the shortage of cash peaked, more consumers preferred to use non-cash payment methods, even for minor transactions. It demonstrates that while security and prompt interactions had a negative impact on the dependent variable, simplicity and interoperability had a considerable beneficial impact on the uptake of mobile payments. Because they think that their financial information is not secure when they deal online, individuals are increasingly worried about security issues.

Gupta, Knavish, and Nupur Arora. (2020) demonstrates that attitudes toward adopting mobile payment systems are positively impacted by perceived utility and ease of use. Additionally, there is a strong positive correlation between the intention to implement mobile payment systems and the attitude toward doing so. Using the technological acceptance paradigm, the current study investigates how attitudes toward mobile payment systems affect intentions to adopt them.

6. Statement of problem

The Indian population is diverse in terms of their cultural background, educational attainment, income, exposure to, and adoption of technology. The process of integrating technology into the banking system is laborious for

those with conservative cultural backgrounds. Such technology must eventually be adopted by Indian banking customers in a number of signpost scenarios. Virtual or electronic banking has not reached a noteworthy peak since its introduction. The first stage presents the banker with unforeseen obstacles. The Reserve Bank of India and the Central Government have worked so hard that even the people of rural villages are sufficiently aware of electronic payment methods. The present study is focusing to analyse the factors influencing in adopting digital payment system, so the study entitles as "**A SEM Analysis on the Factors Influencing in Adoption of Digital Payment System with Reference to Madurai District.**"

7. Objectives of the Study

Following are the important objectives for the present study.

- To know the demographic details of the respondents in the study area.
- To study the respondents' attitude towards digital payment in the study area.
- To ascertain the factors influencing in adoption of digital payment system in the study area.

8. Area of the Study

The current study is conducted in Madurai District, Tamil Nadu, India. The sample respondents are identified only in Madurai District. A diverse mix of people from rural, semi-urban, and urban areas make up the research region. The Madurai District is located in Tamil Nadu State's southern region.

9. Sample Design

In this research article, 572 respondents participated in studies. The sample size is chosen using the quota sampling technique. The Taluks in Madurai District are used to split the population into categories that are mutually exclusive. The percentage of the population as reported by 2011 census respondents is used to determine the sample size for each subgroup.

10. Socio and Demographic Factors

The study's conclusions depend on the sociodemographic characteristics of the participants. The respondents' personal information plays a significant role in influencing their decision to use digital transactions, and it is seen to be crucial to examine the problems and difficulties associated with doing so. The respondents' demographic and socioeconomic information are listed below:

Table - 1

Socio and Demographic Factors

Socio and Demographic Details	Area of Residence			
	Urban	Semi – Urban	Rural	Total
Gender				
Male	67.1	67.4	68.8	67.5
Female	32.9	32.6	31.2	32.5
Marital Status				
Married	32.2	39.8	38.7	38.3
Unmarried	62.8	60.2	61.3	61.7
Age				
Up to 20 years	17.8	14.9	18.3	17.0
21 – 40 years	35.9	35.9	39.8	36.5
41 – 60 Years	32.9	34.3	28.0	32.5
Above 60 Years	13.4	14.9	14.0	14.0

Educational Qualification				
Up to HSC	32.9	33.1	39.8	34.1
Under graduation	60.4	58.0	48.4	57.7
Post graduation	6.7	8.8	11.8	8.2
Occupation				
Students	11.4	11.0	10.8	11.2
Private Sector Employee	32.6	29.8	31.2	31.5
Public Sector Employee	25.8	24.3	21.5	24.7
Agriculturist	15.8	20.4	19.4	17.8
Business	8.4	6.1	7.5	7.5
House Maker	6.0	8.3	9.7	7.3
Mature of Family				
Joint Family	46.6	45.3	43.0	45.6
Nuclear Family	53.8	54.7	57.0	54.4
Monthly Income				
Up to Rs.20,000	12.1	14.9	11.8	12.9
Rs20,000 – Rs. 40,000	36.9	33.7	40.9	36.5
Rs.40,000 – Rs.60,000	28.2	24.3	26.9	26.7
Rs.60,000 – Rs. 80,000	17.1	20.4	12.9	17.5
Above Rs.80,000	5.7	6.6	7.5	6.3
Total (Frequency)	**298**	**181**	**93**	**572**
Total (Percent)	**100**	**100**	**100**	**100**

Source: Primary Data

Numbers of Column Percentage

Table 1 shows that, 67.5 percent of the respondent are male, 61.7 percent of the respondents are unmarried, 36.5 percent of the respondents are in 21- 40 years of age group, 57.7 percent of the respondents have under graduate educational qualification, 31.5 percent of the respondents are private sector employee, 54.4 percent of the respondents are living in nuclear family structure, 36.5 percent of the respondent's monthly income between Rs.20,000 and Rs.40,000. It is concluded that there are 52.10 percent of the respondents are from urban area, 31.64 percent of the respondents are from semi-urban area and only 16.26 respondents are from rural area.

11. Attitude Towards Digital Mode of Transaction

It is important to know how the respondents are behaving towards digital payment system. The present study is also analyzing the respondents' attitude towards digital payments.

Table - 2

Attitude Towards Digital Payment System

Digital Payment System Attitude	**Area of the Respondents**			
	Urban	**Semi – Urban**	**Rural**	**Total**
Types of Bank				
Nationalised Bank	61.7	57.5	57.0	59.6
Private Bank	34.2	37.0	36.6	35.5

Foreign Bank	4.0	5.5	6.5	4.9
Frequently Used Service				
Net Banking	11.4	15.5	11.8	12.8
Mobile Banking	13.8	16.0	16.1	14.9
Mobile Application	20.5	20.4	15.1	19.6
E-Lounge	23.2	22.1	34.4	24.7
Debit / Credit Cards	31.2	26.0	22.6	28.1
Frequency of Using Digital Transaction				
Daily	39.6	32.0	35.5	36.5
Weekly	31.5	30.4	34.4	31.6
Monthly	20.1	28.2	22.6	23.1
Need Based	8.7	9.6	7.5	8.7
Amount Per Transaction				
Up to Rs.10,000	44.3	43.1	43.0	43.7
Rs.10,000 – Rs.20,000	29.9	25.4	35.5	29.4
Rs.20,000 – Rs.30,000	10.7	17.1	10.8	12.8
Rs.30,000 – Rs.40,000	10.4	8.8	8.6	9.6
Above Rs.40,000	4.7	5.5	2.2	4.5
Factors Influencing to Use Digital Payment System				
Safe and Secure Transaction	37.2	30.4	28.0	33.6
No need to Carry Cash	17.1	24.3	26.9	21.0
Any time Any Where banking	17.8	15.5	22.6	17.8
Cost Effective Transaction	15.8	18.2	14.0	16.3
Less Time Consuming	12.1	11.6	8.6	11.4
Total (Frequency)	**298**	**181**	**93**	**572**
Total (Percent)	**100**	**100**	**100**	**100**

Source: Primary Data
Numbers of Column Percentage

Table 2 observed that, 59.6 percent of the respondents are having bank account in nationalised banks, 28.1 percent of the respondents are frequently used debit / credit card services, 36.5 percent of the respondents are using digital payments daily, 43.7 percent of the respondents are spending up to Rs.10,000 per digital transaction and 33.6 percent of the respondents using digital payment because of safe and secure transaction.

12. Structural Equation Modeling of Adoption of Digital Payment System

There are seven factors has been taken into consideration for analysing factors influencing the adoption of digital payment system. It is based on the Davis Technological Acceptance Model (TAM) in which he found that Perceived Ease of Use (PEU) and Perceived Usefulness (PU) have significant relationship for the adoption of any new technology. In this study Technology Acceptance Model has been modified with other factors such as user-friendly technology, secured transaction, trust and social influence. The following Hypothesis is framed to analysis the users' intention to adopt the digital payment system.

H1: User friendly transaction factor is positively associated with Perceived ease of use in digital payment system.

H2: Trust factor is positively associated with Perceived ease of use in digital payment system.
H3: Social influence is positively associated with Perceived usefulness in digital payment system.
H4: Secured Transaction is positively associated with Perceived usefulness in digital payment system.
H5: Perceived Ease of use is positively associated with purpose of using digital payment system.
H6: Perceived usefulness is positively associated with purpose of using digital payment system.

Model Fit Summary

Table 3

Model fit summary of Structural Equation Model

Indices	**Value**	**Suggested value**
Chi-square value	290.97	-
DF	10	-
P value	0.000	> 0.05
Chi-square value/DF	9.459	< 5.00
GFI	0.977	> 0.90
AGFI	0.835	> 0.90
NFI	0.990	> 0.90
CFI	0.991	> 0.90
TLI	0.952	> 0.90

Table 3. shows that chi-square value is 290.97, Degree of freedom is 10. The p-value is 0.000 which is less than 0.05 and Chi- square value/ DF is 9.459 which is greater than 5.0 but there are other parameters to measure the model fit. Here, Here Goodness of Fit Index (GFI) value (0.977) is greater than 0.9 which represent it is a good fit. Adjusted Goodness of Fit Index (AGFI) value (0.835) which is close to 0.9 is considered as fit. The calculated Normed Fit Index (NFI) value (0.990), Comparative Fit Index (CFI) value (0.991) and Tucker Lewis Index (TLI) value (0.952) indicates that it is a perfectly fit.

3.1 Structural Equation Modelling of Adoption of Electronic Payment System

SEM model was executed on the seven variables such as user-Friendly technology, secured transaction, trust, social impact, perceived ease of use, perceived usefulness and purpose of using digital payment system.

Figure – 3.1
Structural Equation Model

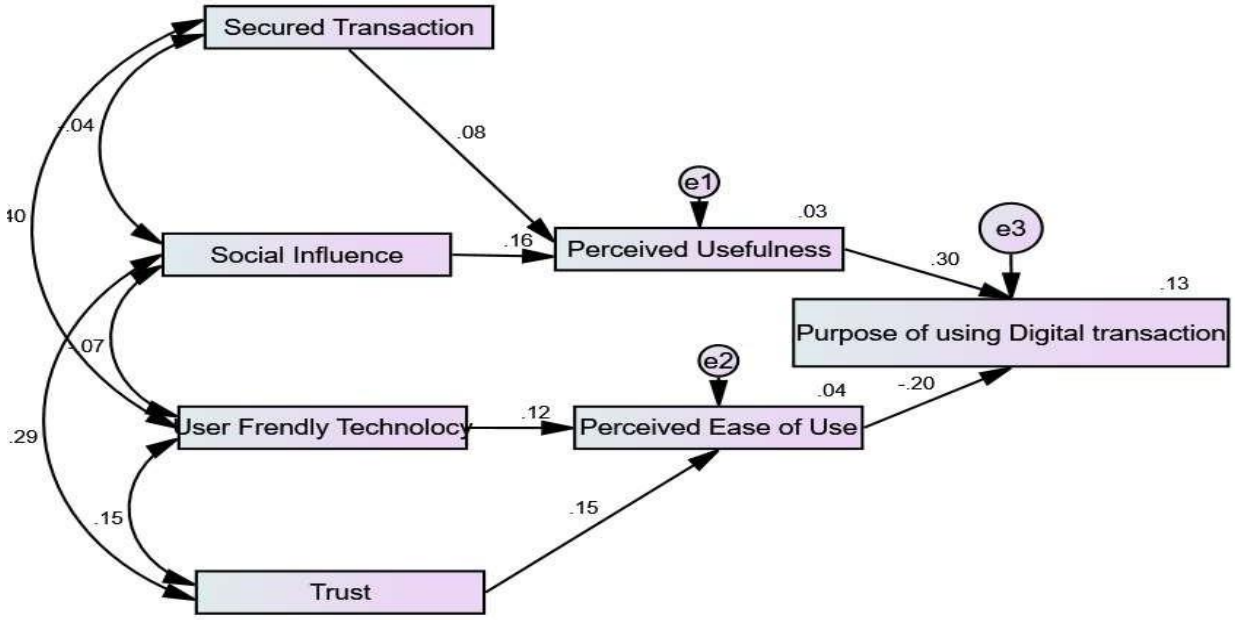

Table 3. 2
Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Perceived Usefulness	<---	Secured Transaction	0.065	0.035	1.837	.066	
Perceived Usefulness	<---	Social Influence	0.105	0.027	3.838	***	
Perceived Ease of Use	<---	User Friendly Transaction	0.187	0.064	2.931	.003	
Perceived Ease of Use	<---	Trust	0.159	0.044	3.637	***	
Purpose of using Digital Transaction	<---	Perceived ease of use	0.285	0.037	7.607	***	
Purpose of using Digital Transaction	<---	Perceived Usefulness	0.149	0.030	5.002	***	

Source: Primary Data

Table 3.3
Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
User Friendly Transaction	<-->	Trust	1.337	.346	3.864	***	
Social Influence	<-->	Trust	4.706	.713	6.596	***	
Secured Transaction	<-->	Social Influence	-.684	.649	-1.053	.292	
Secured Transaction	<-->	User Friendly Transaction	3.477	.391	8.897	***	
User Friendly Transaction	<-->	User Friendly Transaction	-.773	.469	-1.647	.099	

Source: Primary Data

It is found that, p value of relationship between perceived usefulness and social influence, perceived ease of use and user-friendly transaction, perceived ease of use and trust, purpose of using digital transaction and perceived ease of use and purpose of using digital transaction and perceived usefulness is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence there is a significant relationship between the seven variables.

13. Findings

Summary of the findings as follows.

Most of the respondent are male,

Unmarried respondents are using digital transaction than the married respondents.

Respondents are in 21- 40 years of age group are adopting digital transaction than the other age group respondents.

Respondents have under graduate educational qualification has high exposure to the digital mode of transaction. Private sector employees have more access to digital transaction. Respondents who have monthly income between Rs.20,000 and Rs.40,000 using digital transaction than others.

Majority of the respondents are having bank account in nationalized banks.

Respondents are frequently used debit / credit card services. Majority of the respondents are spending up to Rs.10,000 per digital transaction.

Respondents using digital transaction because of safe and secure transaction than the other reason.

The regression weights reveal the estimates between variables and it concluded that, User friendly transaction factor is positively associated with Perceived ease of use in digital transaction. Trust factor is positively associated with Perceived ease of use in digital transaction. Social influence is positively associated with Perceived usefulness in digital transaction. **S**ecured Transaction is positively associated with Perceived usefulness in digital transaction system. Perceived Ease of use is positively associated with purpose of using digital transaction system. Perceived usefulness is positively associated with purpose of using digital transaction system.

14. Suggestions

Service providers ought to take the initiative to allay users' fears by enhancing the dependability of digital payment systems. All platforms should be able to transact a large sum in a single transaction thanks to the service providers. All of the respondents generally suggested that using debit or credit cards carries fees. A nation such as India is working to implement digital payment methods. Users are discouraged from using digital payment systems because of these kinds of hidden fees. Banks may think about imposing these kinds of fees.

15. Conclusion

Current trends show that people are using digital payment methods to save time, energy, and effort. They are also easy to use. Programs that increase consumer knowledge of digital payment systems must be implemented immediately; it is also agreed. Credit and debit cards are still often used by people for online purchases, but more convenient alternatives must be used as well. The growing number of consumers who favor digital payments over traditional ones is encouraging.

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