

IMPACT OF ELECTRONIC PAYMENT SYSTEM ON CONSUMER BUYING BEHAVIOR IN THOOTHUKUDI

M.Bala Abirami and A.Amora

PG and Research Department of Commerce, St. Mary's College (Autonomous), Thoothukudi
Affiliated to Manonmaniam Sundaranar University, Thirunelveli, Tamil Nadu, India

ABSTRACT

Impact of electronic payment system on consumer buying behavior in Thoothukudi is the topic taken for research. This study is focused on assessing the adoption rate of e-payment systems among consumers, analysing the factors influencing consumers' choice of e-payment systems, exploring the knowledge of the e-payment system of consumer behaviour, investigating the impact of e-payment systems on consumer behaviour and providing secure payment options that protect consumer data. Primary and Secondary data used in the study were collected. The purposive sampling technique is adopted to select 120 respondents who use the Impact of electronic payment system on consumer buying behaviour in Thoothukudi District who used the impact of electronic payment systems on consumer buying behaviour in Thoothukudi District. The study examines the impact of electronic payment systems (EPS) on consumer behaviour, emphasizing convenience, security, and accessibility as primary drivers of adoption. The findings reveal that a majority of consumers prefer digital transactions for their ease of use and efficiency, with credit/debit cards and digital payment apps being the most frequently used methods. Demographic analysis shows that younger consumers (18-24 years) are the most engaged users, with a slight majority of female respondents favouring digital payment.

Keywords

Impact, electronic payment system, consumer buying behaviour, debit card, credit card and digital payment.

INTRODUCTION

The electronic payment system (EPS) has significantly transformed consumer buying behaviour by offering convenience, security, and efficiency in financial transactions. The study explores the impact of e-payment systems on consumer behaviour, highlighting

how digital transactions influence purchasing decisions, market dynamics, and brand perceptions. Factors such as convenience, security, rewards, and business acceptance shape consumer preferences for various e-payment methods, including credit cards, mobile wallets, and digital currencies. Using the snowball sampling method, the research aims to assess consumer acceptance, usage trends, and the factors influencing e-payment choices. The study emphasizes the importance of EPS in enhancing consumer satisfaction, reducing payment barriers, and expanding global market access while also acknowledging challenges like digital literacy and security concerns. The research draws insights from previous studies, which suggest that technological advancements, trust issues, and regulatory frameworks play crucial roles in shaping e-payment adoption. Through statistical analysis and consumer surveys, the study aims to provide valuable insights for businesses and policymakers to optimize e-payment systems and improve the overall consumer experience in the digital financial landscape.

REVIEW OF LITERATURE

Halim et al. (2020) “Impact of E-payment system on consumer buying behaviour” expressed that the increasing ability of impulsive buying behaviour, made possible by e-

Payment systems in e-commerce are the driving force behind this pilot study. Online shopping's efficiency and convenience encourage customers to make impulsive, more frequent purchases. We intend to examine the impact of e-payment systems, impulsive buying, trust, and behaviour payment systems in e-commerce, which is the driving force behind this pilot study. Online shopping's efficiency and convenience encourage customers to make impulsive, more frequent purchases. We intend to examine the impact of e-payment systems, impulsive buying, trust, and behaviour control on purchase intention in e-commerce using structural equation modelling (SEM) and purposive sampling. Information was gathered in May 2020 from 51 Indonesian online shoppers who primarily used electronic payment methods. All five of the study's hypotheses, which draw on earlier findings and the Theory of Planned Behaviour, are confirmed, showing the important influence of these factors on e-commerce purchase intention.

Ho et al.(2020) “Impact of electronic payment system on consumer buying behaviour” The development and security of electronic payment techniques are critical to the long-term viability of electronic payment. Trust and faith in this technology remain low among internet users, whether in terms of revealing their personal information or

preventing their card details from being stolen and used by someone else. An essential factor in the spread of culture and the usage of electronic media is a country's educational attainment level. Yet, the absence of such a culture would lead to several issues, the most serious of which is the lack of trust in electronic payment. E-commerce transactions have been made easier, faster, more secure, and at a lower cost thanks to the electronic payment process. For fraudulent purposes, as well as the number of electronic payments and fraud methods that are created.

P.Lai et al.(2020) “Impact of electronic payment system on consumer buying behaviour” There is still a lack of public interest in using these systems, even if attempts have been made to persuade people otherwise. It was thus decided to research what influences customers' adoption of electronic payment methods. Findings from the research demonstrated that elements such as expectations of performance, expectations of effort, the effect of social interactions, and facilitative limitations all played a role.

Zoleta (2021) “Adoption of E-Payment Systems in the Philippines” The researchers were adopting e-wallet or e-payment systems more than credit cards in 2018. Platforms such as GCash and PayMaya are options for Filipinos to do digital financial transactions without physical cash and credit cards. Additional data also show that more Filipinos are becoming aware of contactless payments and see such services' benefits. The Visa Consumer Payment Attitudes study revealed that 80 percent of respondents were aware of e-payment systems (Visa, 2019).

K M, Siby(2021) He quoted in his paper ‘A Study on Consumer Perception of Digital Payments Methods in times of Covid Pandemic’ that even amid the Covid pandemic, the digitization drive in payment systems has made tremendous progress. 107 respondents from Kerala's Ernakulam district provided primary data for this study, which examined consumer impression of digital payment methods based on demographic factors such as gender, age, educational attainment, and occupation. Based on the main demographic factors, correlation and One way ANOVA were employed to analyse the data.

STATEMENT OF THE PROBLEM

The use of e-payment systems is beneficial and has been implemented by millions of companies all over the world. In line with its benefits, companies and customers have also faced challenges. certain challenges. One of the challenges encountered is that the e-payment system requires some degree/level of literacy. That is, some customers who make use of the e-payment system are not well knowledgeable or

do not know how to use the e-payment system to seal a transaction on their own. Another problem identified is that most of the customers are security-conscious. Findings are that many users face digital literacy challenges and security concerns, slowing e-payment adoption. The suggestions are to improve user education, enhance security, build trust, and support small businesses with lower fees.

OBJECTIVES OF THE STUDY

1. To assess the adoption rate of e-payment systems among consumers.
2. To analyze the factors influencing consumers' choice of e-payment systems.
3. To explore the knowledge of the e-payment system of consumer behaviour.
4. To investigate the impact of the e-payment system on consumer behaviour.
5. To provide secure payment options that protect consumer data.

RESEARCH METHODOLOGY

Sampling design	Simple random sampling
Period of the study	November 2024 to March 2025
Data used	Primary and Secondary data
Test for analysis	Percentage analysis, Descriptive analysis, One-sample test, Independent sample t-test and One ANOVA

LIMITATION OF THE STUDY

In order to make this project a veritable and well found one all the aspects of the topic were kept in mind. The major limitations are.

1. Time is one of the main hindrances which limit effective data collection.
2. The number of respondents 120 is limited.
3. The area of study is Thoothukudi, so the study doesn't suit other cities.
4. The reliability and accuracy of the study depend on the respondents truthfulness and response towards the questionnaire.

Results and discussion

TABLE SHOWING THE SATISFACTION OF E- PAYMENT SYSTEM

Satisfaction Electronic payment system	Mean	Standard deviation
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E-payment systems enhance convenience for online transactions.	4.4333	.86708
The e-payment system is satisfactory.	4.1000	.71479
The availability of multiple e-payment systems offers better options.	3.5000	.97014
Social media and recommendations influence my choice of e-payment systems.	3.5417	1.18034
Customer support is reliable for resolving e-payment issues.	3.3333	1.29857
Offers and discounts influence my choice of e-payment systems.	3.4667	1.20874
E-payment systems are secure and trustworthy.	3.5167	1.13006
knowledgeable about using e-payment apps.	3.5917	.99153
E-payment systems foster brand loyalty.	3.6917	1.08307
Transparency in security policies builds trust in e-payment systems.	3.6833	96130
The level of consumer awareness about e-payment systems.	3.4667	1.26314
The use of e-payment systems for online transactions is prevalent.	3.4833	1.21602
The importance of low transaction fees in selecting an e-payment system.	3.6417	1.09080
The security of the e-payment system on consumer satisfaction.	3.5667	1.14300
The role of consumer support in ensuring a positive experience with the payment system.	3.6917	1.09848
The impact of using e-payment systems on trust and credibility in online transactions.	3.6500	1.03429
The rate of security payment options offered on this platform is in terms of protecting the pers financial information.	3.6583	3.6583

Based on the Highest Values of mean 4.4333 and 3.6917. These indicate the aspects of e-payment systems that received the most positive feedback. From the previous table, 4.4333 corresponds to "E-payment systems enhance convenience for

online transactions," showing that users strongly agree with this statement. The mean of 3.6917 corresponds to factors like "E-payment systems foster brand loyalty" and "The role of consumer support," indicating that users generally find these aspects satisfactory, but with some variability.

Based on the lowest values of means, 3.3333 and 3.4667. These represent the areas with relatively lower user satisfaction. The 3.3333 score is associated with "Customer support is reliable for resolving e-payment issues," which suggests that users have mixed or slightly negative opinions about customer support reliability. The 3.4667 score likely represents "Offers and discounts influence my choice of e-payment systems" or "The level of consumer awareness about e-payment systems," suggesting that users are less influenced by promotions or feel that awareness could be improved.

The standard deviation (SD) values provide insight into the variability of data. The highest Standard deviation values: 1.29857 1.26314 indicates a greater spread in responses, suggesting higher variability in how people responded to that particular factor. This means opinions or experiences were more diverse. Lowest standard deviation values: 0.71479 And 1.09080 suggest lower variability, meaning that responses were more consistent and closer to the mean. A lower SD indicates a more uniform agreement among respondents, while a higher SD suggests differing opinions or experiences.

On One-sample-test

Null Hypothesis (H₀): There is no significant difference between perception and satisfaction.

Alternative Hypothesis (H₁): There is a significant difference between perception and satisfaction.

TABLE SHOWING THE IMPACT OF E-PAYMENT SYSTEM ON PERCEPTION AND SATISFACTION

Impact	Mean	Standard deviation	T-value	P-value
E-payment systems enhance convenience for online transactions.	4.4333	.86708	18.108	.000
The e-payment system is satisfactory.	4.1000	.71479	16.858	.000

The availability of multiple e-payment systems offers better options.	3.5000	.97014	5.646	.000
Social media and recommendations influence my choice of e-payment systems.	3.5417	1.18034	5.027	.000
Customer support is reliable for resolving e-payment issues.	3.3333	1.29857	2.812	.006
Offers and discounts influence my choice of e-payment systems.	3.4667	1.20874	4.229	.000
E-payment systems are secure and trustworthy.	3.5167	1.13006	5.008	.000
knowledgeable about using e-payment apps.	3.5917	.99153	6.537	.000
E-payment systems foster brand loyalty.	3.6917	1.08307	6.996	.000
Transparency in security policies builds trust in e-payment systems.	3.6833	.96130	7.787	.000
The level of consumer awareness about e-payment systems.	3.4667	1.26314	4.047	.000
The use of e-payment systems for online transactions is prevalent.	3.4833	1.21602	4.354	.000
The importance of low transaction fees in selecting an e-payment system.	3.6417	1.09080	6.444	.000
The security of the e-payment system on consumer satisfaction.	3.5667	1.14300	5.431	.000
The role of consumer support in ensuring a positive experience with the e-payment system.	3.6917	1.09848	6.898	.000
The impact of using e-payment systems on trust and credibility in online transactions.	3.6500	1.03429	6.884	.000
The rate of security payment options offered on this platform is in terms of protecting the personal and financial information.	3.6583	1.02487	7.037	.000

INFERENCE

Each impact has a mean score, standard deviation, t-value, and p-value. The p-values for all impacts are .000, the significance of 0.05. A p-value < 0.05 indicates that the null hypothesis (H_0) should be rejected. Since all p-values are statistically significant, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1). This means there is a significant difference between perception and satisfaction across all impacts.

INDEPENDENT SAMPLE T-TEST

Impact	Gender				T-value	P-value
	Male		Female			
	Mean	Standard deviation	Mean	Standard Deviation		
E-payment systems enhance convenience for online transactions.	4.3559	.92406	4.5082	.80876	-.961 -.959	.489
The e-payment system is satisfactory.	4.1864	.68165	4.0164	.74144	1.307 1.309	.282
The availability of multiple e-payment systems offers better options.	3.5254	.87801	3.4754	1.05840	.281 .282	.229
Social media and recommendations influence my	3.5763	1.22056	3.5082	1.14925	.315 .314	.613

choice of e-payment systems.						
Customer support is reliable for resolving e-payment issues.	3.4407	1.26315	3.2295	1.33408	.890 .891	.812
Offers and discounts influence my choice of e-payment systems.	3.5763	1.27581	3.3607	1.14065	.977 .975.	.224
E-payment systems are secure and trustworthy.	3.5085	1.07275	3.5246	1.19173	-.078 -.078	.361
knowledgeable about using e-payment apps.	3.7288	.97963	3.4590	.99287	1.498 1.498	.950
E-payment systems foster brand loyalty.	3.7627	1.00583	3.6230	1.15706	.705 .707	.233
Transparency in security policies builds trust in e-payment systems.	3.9153	.93381	3.4590	.94117	2.665 2.665	.588
The level of consumer awareness about e-payment systems.	3.5424	1.08790	3.3934	1.41749	.644 .647	.013
The use of e-payment systems for online transactions is prevalent.	3.6610	1.19785	3.3115	1.21848	1.584 1.585	.773

The importance of low transaction fees in selecting an e-payment system.	3.8644	.89938	3.4262	1.21736	2.237 2.248	.005
The security of the e-payment system on consumer satisfaction.	3.6441	1.06290	3.4918	1.21960	.728 .730	.113
The role of consumer support in ensuring a positive experience with the e-payment system.	3.7458	1.09219	3.6393	1.11105	.529 .529	.822
The impact of using e-payment systems on trust and credibility in online transactions.	3.5254	1.10416	3.7705	.95557	-.301 -.298	.075
The rate of security payment options offered on this platform is in terms of protecting the personal and financial information.	3.5254	1.10416	3.7869	.98514	1.403 -1.401	.227

INFERENCE

The table provided is actually an Independent Sample T-test, The T-test compares the means of two groups Male and Female across e-payment systems. The p-values for all the variables are greater than 0.05. There is no significant difference between male and female respondents in their perceptions of e-payment systems. Since none of the p-values is below 0.05 and fails to reject the null hypothesis, gender does not significantly impact opinions on e-payment convenience, satisfaction, availability, social media influence, customer support, or discounts.

ONE-WAY ANOVA

Null Hypothesis (H0): There is no significant relationship between age and the impact of electronic payment systems.

Alternative Hypothesis (H1): There is a significant relationship between age and the impact of electronic payment systems.

4.TABLE SHOWING THE RELATIONSHIP BETWEEN AGE AND THE IMPACT OF E-PAYMENT SYSTEM

IMPACT		Age (in years)					F value	P value
		1 8- 24	2 5- 3 4	3 5- 4 4	4 5- 54	55- 65		
E-payment systems enhance convenience for online transactions.	Mean	4.47	4.28	4.42	4.45	4.88	.778	.542
	S.D	.896	.634	.987	1.099	.354		
The e-payment system is satisfactory.	Mean	4.18	4.22	4.04	3.90	4.00	.791	.533
	S.D	.521	.941	.774	.641	.000		
The availability	Mean	3.32	3.78	3.46	3.35	3.63		

of multiple e-payment systems offers better options.	S.D	.976	.832	1.029	1.089	.916	1.121	.350
Social media and recommendations influence my choice of e-payment systems.	Mean	3.18	3.97	3.69	3.10	4.00	3.187	.016
	S.D	1.029	.897	1.258	1.410	1.309		
Customer support is reliable for resolving e-payment issues.	Mean	3.09	3.72	3.35	3.05	3.50	1.292	.277
	S.D	1.379	1.054	1.355	1.504	.926		
Offers and discounts influence my choice of e-payment systems.	Mean	3.15	3.75	3.54	3.25	4.00	1.641	.169
	S.D	1.258	1.136	1.334	1.070	.926		
E-payment systems are secure and trustworthy.	Mean	3.29	3.59	3.65	3.60	3.50	.482	.749
	S.D	1.194	1.103	1.263	.995	.926		
Knowledgeable about using e-payment apps.	Mean	3.29	3.88	3.69	3.45	3.75	1.676	.749
	S.D	.906	1.070	.884	.887	1.389		
E-payment systems foster brand loyalty	Mean	3.41	3.78	3.81	3.55	4.50	1.958	.106
	S.D	1.234	.870	1.021	1.234	.535		
Transparency in security	Mean	3.35	3.72	3.77	4.00	3.88	1.730	.148

policies builds trust in e-payment systems.	S.D	1.041	.924	.908	.918	.835		
The level of consumer awareness about e-payment systems.	Mean	3.15	3.63	3.62	3.50	3.63	.789	.534
	S.D	1.374	1.264	1.203	1.318	.744		
The use of e-payment systems for online transactions is prevalent.	Mean	3.15	3.72	3.77	3.30	3.50	1.444	.224
	S.D	1.306	.851	1.070	1.455	1.690		
The importance of low transaction fees in selecting an e-payment system.	Mean	3.26	3.78	3.65	3.85	4.13	1.766	.140
	S.D	1.189	.975	1.093	.988	1.126		
The security of the e-payment system on consumer satisfaction.	Mean	3.50	3.75	3.54	3.15	4.25	1.654	.166
	S.D	1.237	.984	1.208	1.182	.707		
The role of consumer support in ensuring a positive experience with the e-payment system.	Mean	3.68	3.59	3.65	3.75	4.13	.390	.815
	S.D	1.173	.911	1.093	1.293	1.126		

The impact of using e-payment systems on trust and credibility in online transactions .	Mean	3.53	3.88	3.77	3.35	3.63	1.002	.409
	S.D	1.022	.833	1.210	1.040	1.188		
The rate of security payment options offered on this platform is in terms of protecting he personal and financial information .	Mean	3.68	3.81	3.50	3.55	3.75	.402	.807
	S.D	.912	.821	1.140	1.356	1.035		

The above table ANOVA shows a significant value stated with <0.01 , and it is less than 0.05. Hence, I reject the null hypothesis and conclude by accepting that there is a significant difference in the effectiveness of the Impact of the electronic payment system. The higher F value is 3.187 for the electronic payment system.

FINDINGS

- The findings indicate that e-payment systems are widely appreciated for their convenience, with the highest mean values (4.4333 and 3.6917) showing strong user agreement that they enhance online transactions and foster brand loyalty. However, areas such as customer support reliability and the influence of offers and discounts, reflected in the lower mean values (3.3333 and 3.4667), reveal mixed or lower satisfaction, suggesting the need for improvement in these aspects. The standard deviation analysis highlights variability in user experiences, with higher SD values (1.29857 and 1.26314)

indicating diverse opinions and lower SD values (0.71479 and 1.09080) suggesting more uniform agreement. These insights emphasize the importance of enhancing customer service, refining promotional strategies, and increasing consumer awareness to improve overall user satisfaction and drive further adoption of e-payment systems.

- The findings reveal that each impact of e-payment systems has a mean score, standard deviation, t-value, and p-value, with all p-values being .000, which is below the significance threshold of 0.05. This statistical significance leads to the rejection of the null hypothesis (H_0) and the acceptance of the alternative hypothesis (H_1), confirming that there is a significant difference between consumer perception and satisfaction across various aspects of e-payment systems. These results highlight that while users recognize the benefits of e-payment systems, their satisfaction levels vary, emphasizing the need for continuous improvements in factors such as convenience, security, customer support, and promotional strategies to enhance overall user experience.

- The findings from the Independent Sample T-test indicate that there is no significant difference between male and female respondents in their perceptions of e-payment systems, as the p-values for all variables are greater than 0.05. Since none of the p-values fall below the significance threshold, the null hypothesis is not rejected, confirming that gender does not play a crucial role in shaping opinions on e-payment convenience, satisfaction, availability, social media influence, customer support, or discounts. This suggests that both male and female users perceive and experience e-payment systems similarly, emphasizing that factors influencing adoption and satisfaction are more likely related to functionality, security, and ease of use rather than gender differences.

- The one-way ANOVA analysis shows a significant value of <0.01 , which is below the 0.05 threshold, leading to the rejection of the null hypothesis. This confirms a significant difference in the effectiveness of the electronic payment system. The higher F-value of 3.187 indicates variations in user perceptions. These results highlight differences in how users experience e-payment systems. Continuous improvements are necessary to enhance effectiveness and user satisfaction.

SUGGESTION

The following are suggestions based on research work.

- ✓ Make payments more secure and improve security to build more trust.
- ✓ Educate users and teach people how to use digital payments safely
- ✓ Better customer support and quick and helpful support will improve satisfaction.
- ✓ Lower fees, reducing transaction costs, can attract more users.
- ✓ Offer rewards & deals, Cashback, and discounts can encourage more usage.
- ✓ Focus on rural areas to improve access to digital payments in villages.
- ✓ Easy-to-use apps and simple designs will make more people comfortable.
- ✓ Promote digital shopping and encourage people to buy more online using e-payments.
- ✓ Fraud prevention measures strengthen fraud detection to protect users from scams.
- ✓ Integration with more services allows e-payments for government services, transport, and more.
- ✓ Offline payment options introduce features that allow payments without Internet access.
- ✓ Eco-friendly digital payments promote e-receipts and paperless transactions to reduce waste.
- ✓ Multi-device compatibility – ensure smooth transactions across phones, tablets, and computers.

CONCLUSION

The study also indicates that urban and rural consumers are nearly equally inclined toward e-payment adoption. Income levels and occupation play a role in shaping payment preferences, with professionals and middle-income groups being the most active users. Trust in EPS is largely influenced by brand reputation, security measures, and user reviews, while customer support and transaction fees are also key considerations. The study finds that while EPS has encouraged higher spending and changed shopping habits, consumer concerns about security, fraud prevention, and customer service reliability remain. Statistical analysis, including t-tests and ANOVA, confirms a significant relationship between perception and satisfaction with EPS, indicating that factors such as security, convenience, and brand trust strongly affect consumer choices. The findings suggest that while EPS is widely accepted, further

improvements in security measures, customer service, and user awareness can enhance trust and long-term adoption. The study highlights that gender does not significantly impact perceptions of EPS, while age plays a role in adoption, with younger consumers being more receptive to digital payments due to social media influence. Overall, the study concludes that EPS is revolutionizing financial transactions by providing convenience and security, though further improvements in security measures, customer support, and awareness initiatives are necessary to enhance consumer trust and drive wider adoption. Overall, the study underscores the growing reliance on digital payment solutions and the necessity for continuous innovation in security, affordability, and user experience to ensure widespread and sustained adoption.

REFERENCE

Al-Majali, M. & Mat, N. K. N. (2022). Impact of E-Payment System on Consumer Buying Behavior: A Study in Jordan.

Shukla, T. & Sharma, P. (2021). Digital Payment System: Impact on Consumer Purchasing Behavior.

Nassoura, A. B. (2020). The Role of Digital Finance in Facilitating Consumer Purchases of Sustainable Goods.

Halim, E., & Raharjo, S. (2020). The Impacts of E-Payment System and Impulsive Buying on Purchase Intention in E-Commerce.

Chakraborty, S., & Mitra, P. (2023). Spendception: The Psychological Impact of Digital Payments on Consumer Behavior.

Wang, Y., & Xu, J. (2022). The Influence of Payment Method: Do Consumers Pay More with Mobile Payment?

Gupta, R., & Mehta, A. (2024). From Cash to Cashless: UPI's Impact on Spending Behavior Among Indian Users.

Rossi, F., & Bertolini, G. (2014). Do Debit Cards Increase Household Spending? Evidence from a Semiparametric Causal Analysis of a Survey.

Prelec, D., & Loewenstein, G. (1998). The Red and the Black: Mental Accounting of Savings and Debt.

Soman, D. (2003). The Effect of Payment Mechanism on Spending Behavior: The Role of Mental Accounting.

WEBSITE

www.investopedia.com

www.researchgate.net

www.https://scholars.google.com

www.apnews.com

<https://razorpay.com/blogs>