

DETERMINANTS OF CUSTOMERS' PREFERENCES TOWARDS THE DIGITAL PAYMENT SYSTEM IN VISAKHAPATNAM CITY

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Abstract: There is a lot of buzz around the digital payment. The government and private sector both are riding on the digital payment wave. The people who use the digital payment mode are considered more advanced. Digital revolution has provided an easy way to go for digital payments. The reach of mobile network, internet and electricity is also expanding digital payments to remote areas. Digital payment platforms, especially post demonetisation have become the most convenient method to transact in the Indian economy. Although digital payments are popular now, it's also important to use them safely. "Data breach" are two words we hear frequently, and we must know how to use our digital money in a safe manner. The focus of this paper is to determine the composite weight of the factors that are preferred for making digital payment by using Analytical Hierarchy Process (AHP) after conducting survey. The main objective of this paper is to rank the factors of preferring digital payment over cash payment. For the study, a sample of size 284 is selected randomly from Visakhapatnam city.

Key words: Digital Payment, Demonetisation, Data breach, Analytical Hierarchy Process (AHP)

Introduction

Though the concept of digital payment is not new, but the use of digital payment has gained momentum due to the initiative taken by the Narendra Modi government of India by announcing demonetization of Rs. 500 and Rs. 1000 currency notes on 8th November 2016. The term Digital Payment means making payment to other person with the help of internet or through electronic mode instead of paper money. Digital Payments was initiated to bring transparency in transactions and eliminating black money. It was actually a move towards cashless economy. Further, digital payments were encouraged to provide sufficient cash availability to the banks for providing credit to people. Though after demonetization, a considerable part of society has started using Digital mode of Payments, but still people feel scared of using Internet Banking, debit cards, e-cash etc. due to various security reasons. Initially the Government was providing considerable incentives for digital payments but now a decline has been seen in this push. This paper tries to identify the reasons for adopting digital payments by people in India and it also tries to find out the most preferred and least preferred reason for making digital payments.

Review of literature

E- payment system in India, has shown tremendous growth, but still there has lot to be done to increase its usage. Still 90% of the transactions are cash based. Technology Acceptance Model used for the purpose of study. They found Innovation, incentive, customer convenience and legal framework are the four factors which contribute to strengthen the E- payment system (Sanghita Roy, Dr. Indrajit Sinha ,2014)¹.

Rakesh H M & Ramya T J (2014)² in their research paper titled "A Study on Factors Influencing Consumer Adoption of Internet Banking in India" tried to examine the factors that influence internet banking adoption. It is found that internet banking is influenced by its perceived reliability, Perceived ease of use and Perceived usefulness. In the process of internet banking services expert should emphasize the benefits its adoption provides and awareness can also be improved to attract consumers" attention to internet banking services.

Alnsour & Khalil al-hear (2011)³ "Internet banking and Jordanian corporate customers: issues of security and trust". They examined that technology and innovation have very high response behavior, yet it is considerably classified and split particularly in developing nations like Jordan. Their study attempts to provide gainful visions regarding two key factors that arise in the recognition of online banking by Jordanian consumers, specifically, security and trust.

¹ Sanghita Roy, Dr. Indrajit Sinha, (2018)., "Determinants of customers' acceptance of electronic payment system in Indian Banking sector- A study", International Journal of Scientific & Engineering Research, Volume 5, Issue 1, January-2014. pp. 177-187.

² Rakesh, H. M., & Ramya, T. J. (2014). A Study on Factors Influencing Consumer Adoption of Internet Banking in India. International Journal of Business and General Management, 3, 49-54.

³ Alnsour, M. S., & Al-Hyari, K. (2011). Internet banking and Jordanian corporate customers: issues of security and trust. Journal of Internet Banking and Commerce, 16(1), 1-14

Objective of the study

The primary objective of the study is to rank/weigh the determinants of the customers' preferences of digital payment system.

Research methodology

The study was based on primary data. Interview Schedule was constructed for the collection of data using structured questionnaires. Data for this study were collected by means of a survey conducted in the Visakhapatnam city. The structured survey questionnaires were in English and those were distributed to randomly selected 302 participants. Participants were students, retired persons, businessmen, government employees, private employees, informal sector employees and housewives. The respondents were asked beforehand whether they had knowledge about and using online Payment services. Only those who answered in affirmative were given the questions to complete in presence of the researcher. The questionnaire consist of two sections. Section A was designed to collect demographic information like age, gender, occupation, educational qualification and section B was designed to generate information relating to the experience of the customer in online payment services. 287 responses were received and after checking the validity of the questions 284 respondents were fit for carrying out AHP analysis. Data thus collected were posted in a master table to facilitate further processing. The AHP analysis of the data were done through MS Excel in computer.

Analytical Hierarchy Process (AHP):

The Analytical Hierarchy Process is a structured technique for organising and analyzing complex decisions based on Mathematics and Psychology.

It has particular application in group decision making and is used around the world in a wide variety of decision situations in fields such as government, business, industry, healthcare, shipbuilding and education

Rather than prescribing a correct decision, the AHP helps decision makers find one that best suits their goal and their understanding of the problem. It provides a comprehensive and ration framework for structuring a decision problem for representing and quantifying its elements for relating those elements to overall goals and for evaluating alternative solutions.

The AHP converts the evaluations to numerical values that can be processed and compared over the entire range of the problem. A numerical weight or priority is calculated for each element of the alternatives. These numbers represent the alternatives' relative ability to achieve the decision goal. In AHP the comparison of the factors or elements happens in a rational and consistent way. This capability distinguishes the AHP from other decision making techniques.

AHP Model calculation

The following factors are considered in the preference of choosing/opting for digital payments which include a) Convenience /Ease of Digital Transactions b) Time Saving c) Offers/ Discounts / Cash back rewards d) Not holding enough Cash e) Easy Tracking of Expenses

A survey has been done with considerable sample of the size 284 taken from the population in Visakhapatnam consisting of Government employees, Private sector employees, Businessmen, Housewives, and Students etc by considering the above mentioned five factors in the form of a questionnaire. A pair wise comparison is made by using a satty scale which is a relative scale to measure how much would one prefer regarding one factor with respect to another factor. After collecting the data from the respondents, the AHP methodology was applied to determine the weightage of the factors. Consistency check is done as per AHP procedure.

The consistency ratio is computed to verify whether the inconsistency is acceptable or not. If the value of consistency ratio is smaller than 0.1 or 10%, the inconsistency is acceptable. If the consistency ratio is greater than 10% we need to revise the subjective judgement.

Analysis and discussion

The AHP process on five paired comparison revealed the critical weights of the five factors considered in the study namely Convenience /Ease of Digital Transactions, Time Saving, Offers/ Discounts / Cash back rewards, Not holding enough Cash and Easy Tracking of Expenses. The highest value of the critical weight indicates the most accepted determinant of customers. The least value of critical weight indicates the least accepted determinant of customers for the online payment.

Table 1: Critical Weight of the Determinants

	Convenience	Time	Offers	No cash	Tracking	Row total	critical weight
Convenience	0.523	0.7113	0.4155	0.3369	0.2439	2.2306	0.4463
Time	0.1146	0.1708	0.4028	0.3098	0.2459	1.2439	0.2488
Offers	0.131	0.0428	0.1188	0.2488	0.2264	0.7678	0.1536
No cash	0.128	0.0415	0.0374	0.093	0.2282	0.5281	0.1056
Tracking	0.1032	0.0334	0.0253	0.0113	0.0554	0.2286	0.0457

The critical weight with the value .4463 indicates that the respondents prefer online payment system due to its convenience and ease of digital transactions. Since the value of critical weight is highest, this shows that the factor namely convenience is the most accepted determinant of the customer for online payment. It aids the user by giving an option that is quick, and convenient during the travelling time. Digital payments can be carried out without any hassle and much efforts as it does not require one to be physically present anywhere for the money to be paid.

The least critical weight value is .0457 which is for the tracking system. Out of the five determinants chosen, tracking system is the least accepted determinant of the customer for online payment. If all transactions are on record, it will be very easy for people to keep track of their spending. It will also help while filing income tax returns and, in case of a scrutiny, people will find it easy to explain their expenses.

The second highest critical value is .2488 that is of time savings. The respondents are of the opinion that the online payment helps them to save time, As this type of payment does not require one to be physically present anywhere for the money to be paid, This also helps save immense time of the user so that the user is able to utilize time for other important tasks/aspects.

The value of critical weight of .1536 makes the offers stand in the third place of determinants to be accepted by the customers for their online payments. Going digital can benefit the users in terms of discounts provided to them for various occasions as well as purchases. For example, for encouraging people to use digital method of making transactions, government announced waiver of service tax on card transactions up to Rs 2,000. Such incentives and measures by the government help people be more digital friendly, and thus, helps government keep tabs on tax evasion. Moreover, the customer avails benefits of discounts online every now & then, and gets a fair price for the product/service needed. Similarly, saving on rail tickets, highway toll, or purchase of insurance can help cut your costs. Add to these the cashback offers and discounts offered by mobile wallets like Paytm, as well as the reward points and loyalty benefits on existing credit and store cards, and it could help improve your cash flow marginally.

The critical weight value of .1056 keeps the determinant not holding enough cash in fourth place of acceptance. Its not always possible to hold and carry the cash. The online payment helps and rescues the person even when he doesn't hold any cash.

Table 2: Ratio of Weighted sum to Critical weight

	Convenience	Time	Offers	No cash	Tracking	Weighted Sum (WS)	Critical Weight (CW)	WS/CW
Convenience	0.4463	1.0361	0.537	0.3825	0.20108	2.60298	0.4463	5.8323
Time	0.0977	0.2488	0.5205	0.3518	0.2026	1.4214	0.2488	5.713
Offers	0.1117	0.0522	0.1536	0.2825	0.1866	0.7866	0.1536	5.121
No cash	0.1092	0.0604	0.0483	0.1056	0.1881	0.5116	0.1056	4.8447
Tracking	0.088	0.0486	0.0327	0.0128	0.0457	0.2278	0.0457	4.9846

$$\lambda_{\max} = \sum (WS/CW)/n$$

where WS, CW and n are weighted sum, critical weight and number of determinants respectively.

$$\begin{aligned}\lambda_{\max} &= 26.4956 / 5 \\ &= 5.299\end{aligned}$$

$$\begin{aligned}\text{Consistency Index (C.I.)} &= \lambda_{\max} - n / n - 1 \\ &= 5.299 - 5 / 4 \\ &= 0.07475\end{aligned}$$

$$\text{Consistency Ratio (CR)} = \text{C.I.} / \text{R.I.}$$

Since the R.I. (Random Index) value is 1.12 for 5 determinants from the table value

$$\begin{aligned}\text{Therefore, CR} &= .07475 / 1.12 \\ &= 0.06674\end{aligned}$$

Since the CR value is less than 0.1, the data is said to be consistent and there is only 6% of inconsistency which is acceptable.

Conclusion:

The AHP process on five determinants revealed that the order of the determinants preferred by the customers for the online payment is convenience & ease, time, offers & discounts, non cash availability and tracking system respectively.

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