Factors Impacting the Usage of E-Wallets in National Capital Region

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Abstract

There has been a noticeable spike in cashless transactions in recent years due to the advancements of financial technologies, new government initiatives and the nationwide unprecedented situation. Taking the mentioned circumstances into consideration, the current research is carried out to identify the various factors encouraging the people to use the e-wallets. Moreover, this research addresses the various purposes for which people use e-wallets and the major challenges they face while using the services of e-wallets. The primary data were collected from 285 respondents belonging to National Capital Region (NCR) of India. Out of the total respondents, 221 use e-wallets and 64 were non users. The collected data were analysed using multiple statistical tools including descriptive statistics, shapiro-wilk test of normality and Garrett rank analysis. The outcomes of the study highlighted that the facility of using e-wallets from anywhere is the most appealing reason for adopting the use of e-wallets and it is not at all treated as status symbol for the individuals, therefore status symbol has no role in determining the use of e-wallet. It is also found that the e-wallets are most preferred for mobile recharge, however it is least preferred for toll payments and fuel charges. Moreover, the study has stressed upon the fact that the frauds that happen with most of the people is the key issue that the individuals have regarding usage of e-wallets. Furthermore, the analysis conducted on the 64 non-users of e-wallets highlighted that the main reasons for not using e-wallets were their habits of making cash payments and security concerns. The outcome of this study has multiple implications for the upliftment and enhancement of e-wallet services in India. Therefore, this study offers few suggestions based on the results for the development of e-wallet service providers in the coming years.

Keywords: *e-wallet, digital payment, cashless, digitalization, national capital region, security concerns.*

Introduction

Digital technological innovations have transformed the process of buying and selling commodities in India. People are using these digital wallets to buy a candy as well as to transfer money from one account to other (Malik *et al.*, 2020). Digital India, an initiative of Government of India emphasis on making technology a core tool for financial transactions (Avitesh and Nagpal, 2017). E-commerce is one of the instance that has increasingly helped consumers migrate from buying directly in brick mortar stores to purchase from online stores. The buying patterns of customers has changed a lot with the evolution of e-commerce. Tella (2012) described e-payment as paperless mode of transactions. E-wallet is one of the form of electronic payment

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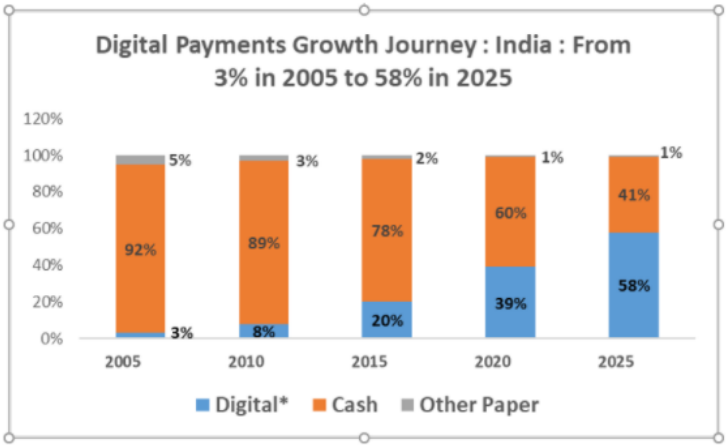
methods which if gaining dominance across the globe. Users can save and monitor their personal details relating to their online transactions with the help of e-wallets (Uddin and Akhi, 2014).

E-payments have been growing immensely since years. In 2019, the number of cashless transactions worldwide hit 582.6 billion, a rise of 12.1 per cent relative to 2018. The growth journey of digital payment activities in India are seen in Figure 1. At the same time, smartphone penetration in India has risen from 2% in 2005 to 26% in 2015, and 32% in 2020.



Source: Nasscom Insights, 2020.

Transaction development in emerging Asian economies is roughly 25.2% and in Central European, Middle Eastern and African nations is 17.1%. The developing nations of Europe, North America, Australia, Japan, Singapore and South Korea contributed towards the transaction development to the tune of 7.1 per cent. The cashless trade is forecasted as billion 876.4 by the end of current fiscal year. The developing Asian economies including India, are expected to record for approximately 28-29 per cent of total cashless transactions worldwide in 2021. In the year 2019, the total e-wallet transactions across the globe accounted for about 9.1 per cent of total cashless transactions, which corresponds to billion 41.8 transactions. China recorded approximately 36 billion of transactional value and hence became the most significant contributor towards e-payment business in the year 2019. The evolution of cellular technology is among the key drivers in the development of e-wallets. The growing amount of mobile technology and app consumer adoption is impacting the growth of e-wallets (Capgemini and BNP Paribas, 2020).

The sluggish progress of e-wallets in India is the main reason for conducting the present study on the usage e-wallets. Keelery (2021) reported that the market size of the online retail industry in India amounted to approximately US$ 60 billion in 2020. Using the latest data from statista, 56 per cent of people in India are using smartphones and over the total number of smartphone users in India in 2020, there were 85.7 million people using e-wallets in India. The penetration of e-wallets in India is still in rising trajectory, so there is a tremendous potential to expand.

Several previous studies about the online transactions were performed, Reza (2019) looked at the factors responsible for the success of online payment schemes, and findings of such studies showed that promotion, benefit, connectivity, performance and protection have been

positively affecting the usage of online payment. Tella (2014) in his study concluded that user satisfaction regarding the use of electronic payment systems is affected by comfort, speed of transactions and system security. Sharma and Agarwal (2019) concluded that ease and confidence have had a substantial effect on the use of e-wallets. Another study by Taufan and Yuwono (2019) pointed out that perceived importance and perceived utility are the most influential variables for usage. Salloum, *et al.* (2019) in his research regarding the e-payment systems adoption showed that the students' intention towards the usage of e-payment systems is significantly influenced by success goals and potential advantages, whereas protection and vulnerability negatively influenced the students' intention. On the other hand, Trust had a negligible association with the purpose of e-payment system usage. To conclude, it can be clarified that e-payments are new methods of making payments. Customers and consumers are worried with confidentiality and protection of records. While customers are anxious about protection and confidence problems, they are likely to bend their rules while bearing in mind the ease and other benefits of mobile payments.

Review of literature

There are different forms of digital payment in the Indian payment system, such as debit cards, credit cards, aadhar enabled payment, and e-wallets. E-wallet is considered as an application that supports individuals to execute online purchases by keeping their credit card details confidential. Payments may be made in e-wallets either via the internet or via smartphones. Money can be deposited in e-wallets. Customers can make payments with the funds in these wallets. E-wallets are connected to a single bank account. E-wallets have been present in India since 2010 (RBI, 2010). The main driving forces behind the penetration of e-wallets are the growing use of low priced smartphones and fair tariff prices. In view of increasing use of e-wallets (National Payment Scheme, 2019), it is important to understand the customer aspect of the adoption and acceptance of e-wallets.

Usage of e-wallet

Extensive literature on the use of e-payments is available. Payments by e-wallets are currently assumed as the utmost popular transaction methods because of its multiple benefits including flexibility, convenience and protection (Uddin and Akhi, 2014). E-wallet is now noted for its creative rewards, likewise customization and quick chat (Osakwe and Okeke, 2016). With the increasing number of e-payment system, e-wallets have gained prominence primarily in travelling, food and billing sectors by proposing huge number of facilities and options to pay (Rosnidah *et al.*, 2019). As highlighted by Hayashi *et al.* (2014) buyers are not only at the receiving end moreover the merchants also adopt e-wallets as payment method due to their fast transaction operation, robust cash handling and lower labour costs. The purchases made using e-wallets are performed by consumers by scanning the QR code using their mobile device to validate payment at the stores (Lu, 2018).

Factors influencing usage of e-wallets

Trust and security are most important factor influencing the behavior of consumers for e-wallets (Zmijewska *et al.*, 2004). The results are further in line with Doan (2014) mentioning that

security parameters are identified to be the important factor influencing the adoption of e-wallets by customers. A report by KPMG (2010) highlighted security and privacy are the main concerns for customers in order to use digital payment modes. Trivedi (2016) observed that perceived risk and ease of use are most influential factors to encourage the use of e- wallets.

Cost and security factors that limit the impact of e-wallets are identified by Seetharaman *et al.* (2017). Acceptance of e-wallets by consumers is strongly motivated by the advantages that they provide for users (Linck *et al.,* 2006). Convenience and rapid processing are recognised as key factors that influence the acceptance of e-wallets (Reddy *et al.*, 2017). Al-Amri *et al.* (2018) describes the ease of usage as a driving factor in the use of e-wallets. Ahuja (2018) describes ease of use, confidence and gain as key factors that affect consumer perception for e-wallets. Pousttchi and Wiedemann (2007) identified success expectations, effort expectations, social effect and promoting factors as the variables affecting the intention to use e-wallets. Lee (2005) studied the effect of expectations of interaction on customer confidence and purchases in e-commerce and found that trust actually plays a major role in assessing consumer intentions for transactions.

Daştan and Gurler (2016) considered that perceived confidence, perceived versatility and behavioural factors had a positive impact on the acceptance of e-payment services. Tadse and Nannade (2017) concluded that PayTm is currently performing well in terms of anonymity, but they must focus on discounts/offers, processing time and add creativity to improve customer loyalty. Cao *et al.* (2016) found that perceived confidence is the best indicator of the intention to use e-payment services, accompanied by perceived ease of use, perceived pleasure, perceived behavioural control, perceived utility and subjective norm. Batra and Kalra (2016) have developed that there is a massive untapped demand for digital wallets, both in terms of growing recognition and use. Security concerns in terms of fear of cash losses and lack of flexibility for foreign transfers are the main obstacles to their acceptance. From some of the findings of the existing research that have been carried out, it is observed that there are differences in the results of the studies conducted by various researchers. Against the given background the current study is aimed to gain in-depth insight of the factors affecting the usage of e-wallets among NCR users.

Research Methodology

The present research is grounded on the primary data obtained using a questionnaire method from the respondents. The questionnaire was developed on the basis of existing literature. Though the total e-wallet users in NCR is not demarcated or published anywhere, however NCR being situated at the heart of the nation with huge developments and commercialization all around, the national capital region have huge heterogeneous population which is connected quite well with technology and its latest trends and advancements. A total of 330 responses were collected from the people belonging to NCR, out of which 285 responses were found suitable for further analysis and the remaining were dropped due to the incomplete information. The study was conducted on the total of 285 respondents out of which 64 were non-users of e-wallets. Therefore, the major part of the analysis was carried out by using these 221 responses only (e-wallet users), however the responses of 64 non-users were used to estimate the reasons for non-usage. Snow ball method of sampling has been employed to gather the data from the respondents.

Before conducting the final survey a pilot study was also executed on 30 respondents and cronbach's alpha was used to assess the questionnaire's reliability.

Objectives of the study

The main objectives of this pragmatic study are

1. To identify the various factors that encourage the usage of e-wallets.
2. To identify the various challenges faced by the users of e-wallets.
3. To identify the purpose for which the e-wallets are used frequently.
4. To identify the key reasons behind the reluctance towards the usage of e-wallets.

Statistical Techniques

The collected data has been analysed using descriptive statistics, cronbach's alpha (reliability), shapiro-wilk test (normality of data) and Garrett ranking (most and least preferred options). Dhanavandan, (2016) suggested that Garrett rank analysis is the appropriate technique to identify the most influential factor affecting usage of e-wallets, the most important purpose(s) for which e-wallets are used, and to explore the key problem(s) faced by the users of e-wallets. This method is typically considered wherein there is a need to rate various variables by the respondents, and hence the scores are derived from the rankings (Unas and Kumar, 2015). For conducting the analysis, IBM SPSS version 25.0 has been used.

Reliability and Normality

For identifying the various factors encouraging the people to use the e-wallets, for understanding the various purposes for which people use e-wallets and to highlight the major challenges faced by e-wallet users while using the services of e-wallets, an internal consistency test has been performed to assess the reliability of the collected responses for subsequent analysis. The Cronbach alpha value for entire data set was 0.869 which is within the threshold and reflecting that the data can be used for further analysis (Hair *et al.*, 2010). Furthermore, Cronbach alpha values were also calculated for all dimensions separately (i.e. purpose, encouraging factors for usage and problems) and such values ranged from 0.805 to 0.928, elucidating a good internal consistency, unidimentionality and reliability of the collected data (Hair *et al.*, 2010). After conducting the reliability analysis on the sample, the collected data was tested for its normality with the help of Shapiro-Wilk test of normality. It was found that all variables scored a significance value (i.e. p value) of less than 0.05 with degree of freedom (df) as 221. Thus, it can be concluded that the dataset was not distributed normally and was highly skewed due to which non-parametric test have been used in the current study to draw more meaningful interpretation of sample under study (Royston, 1982).

Results and Discussion

The present research used questionnaire data to obtain and evaluate dimensions stated earlier in this study. The questionnaire was distributed online to the respondents. Table 1 shows the

demographic profile of the respondents (e-wallet users) who participated in this study and the sample distribution.

Table 1. Demographic profile of e-wallet users

S. No.	Variables	Categories	Frequency	Percentage
1.	Gender	Male	129	58.4
		Female	92	41.6
		Total	**221**	**100.0**
2.	Age	16-20 years	27	12.2
		21-25 years	75	33.9
		26-30 years	36	16.3
		31-35 years	33	14.9
		36-40 years	19	8.6
		Above 40 years	31	14.0
		Total	**221**	**100.0**
3.	Occupation	Student	81	36.7
		Salaried	100	45.2
		Self Employed	31	14.0
		Non-Working	9	4.1
		Total	**221**	**100.0**
4.	Annual Income (in lakhs)	0-3 lakhs	94	42.5
		3-6 lakhs	47	21.3
		6-9 lakhs	26	11.8
		9-12 lakhs	21	9.5
		Above 12 lakhs	33	14.9
		Total	**221**	**100.0**

Source: Author's compilation based on primary data

It can be observed from the values given in table 1 that total numbers of male respondents were 129 which represent 58.4% of the total sample while there were 92 females representing 41.6%. Furthermore, with respect to age of respondents 33.9% of respondents were aged from 21-25 years, followed by 16.3% of respondents from the age bracket of 26-30 years and a very meagre proportion of 8.6% of respondents fall into the age category of 36-40 years. Concerning occupation of respondents, table 1 indicates that there were 45.2% salaried people, 36.7% students, 14% self-employed and only 4.1% were non-working people. Regarding the income levels, 42.5% respondents falls into the category 0-3 lakhs annually, followed by 21.3% in 3-6 lakhs, 14.9% respondents have income levels above 12 lakhs, 11.8% respondents have income level from 6-9 lakhs with only 9.5% of respondents belong to the annual income category of 9-12 lakhs.

Most preferred e-wallets

There are various types of e-wallet options available in the market and people use them as per their comfort and the user interface of that particular application. Table 2 presents the respondents preferences about various e-wallets.

Table 2. Preference regarding usage of e-wallets

e-wallets	Frequency	Percent
PayTm	113	51.1
AmazonPay	7	3.2
PhonePe	27	12.2
GooglePe	57	25.8
Bhim UPI	17	7.7
Total	**221**	**100.0**

Source: Primary Survey

From table 2 it can be observed that majority of respondents use Paytm i.e. 113 (51.1%) followed by GooglePe with 57 (25.8%) respondents and PhonePe with 27 (12.2%) respondents. Bhim UPI was being used by 17 respondents (7.7%) and Amazon pay seems to be least used e-wallet with only 7 (3.2%) respondents. The results of the present study are supported by the findings of Tadse and Nannade (2017) with respect to the Paytm as most preferred e-wallet application.

Factors encouraging the usage of e-wallet

There are several factors which influence the usage of e-wallets. For example some respondents use e-wallets due to its ease of use, some people use it as a status symbol, and others use it for saving their time while some get encouraged by the offers and refunds available to e-wallet users. Based on the literature review we have identified few factors which encourage the people to use e-wallets. The present study also highlights the order of importance of these factors as shown in table 3 below.

Table 3. Descriptive statistics of factors encouraging use of e-wallets

Factors	N	Mean	Std. Deviation	Std. Error of Mean
Security	221	3.58	0.967	0.065
Privacy	221	3.51	0.937	0.063
Transaction charges	221	3.21	1.126	0.076
Discounts and offers	221	3.67	0.918	0.062
User friendly	221	3.94	0.996	0.067
Time saving	221	4.09	0.971	0.065
Payment from anywhere	221	4.12	0.956	0.064
Cash back options	221	3.61	0.997	0.067
Peer group influence	221	3.00	1.106	0.074
Status Symbol	221	2.67	1.118	0.075
Easy tracking of transactions	221	3.85	0.991	0.067
Easy refund of default transactions	221	3.64	1.126	0.076
Compatible with current technology	221	3.89	0.991	0.067

Source: Primary survey.

Table 3 shows the factors which encourage the respondents to adopt e-wallets. On the basis of mean scores given in table 3, it can be inferred that "payment from anywhere" ($\bar{x}$ = 4.12) is found to be the most influential factor, followed by "time saving" ($\bar{x}$ = 4.09), "User friendliness" ($\bar{x}$ = 3.94), "compatibility with current technology" ($\bar{x}$ = 3.89) and "easy tracking of transactions" ($\bar{x}$ = 3.85). On the contrary, "status symbol" ($\bar{x}$ = 2.67), and "peer group

influence" ($\bar{x}$ = 3.00) are considered as least encouraging factors by the user of e-wallets. All other factors are having moderate importance in influencing the usage of e-wallets.

In order to obtain more accurate results regarding the order of significance of these factors by the e-wallet's users, the rankings of these factors were estimated with the help of Garrett rank analysis method. Table 4 presents the Garrett ranks for all the variables on the basis 221 responses. Every respondent ranked each of the thirteen factors on the Likert scale of 5 point. Rank 1 implies that variable is professed as extremely important and rank 5 implies that the variable is not at all important.

To identify most important factor encouraging usage of e-wallets Henry Garrett ranking technique have been used. For analysis, the given ranks were transformed into percentile using the Garrett rank formula of percentile position [i.e. P = 100(R – 0.5)/N; where P is Percentile Position, R is Rank and N is number of items or factors]. Using Garrett Conversion Table the corresponding scores were estimated for the percentile positions obtained. These scores were then summed up and were then divided by the total sample size for obtaining 'Mean Score'. The variable with maximum average score conveys that it is the most important factor encouraging usage of e-wallets holding the rank 1. Likewise, the next followed highest value was ranked 2 and so on. The consolidated results of the Garrett Rank Analysis on most motivating factor behind adoption and usage of e-wallets are given in Table 4.

Table 4. Garrett rank analysis on factors encouraging e-wallet usage

S. No.	Factors encouraging e-wallet use	Calculated Garrett Score	Average Score	Ranks
1	Security	15879	71.85	9
2	Privacy	15751	71.27	10
3	Transaction charges	15383	69.61	11
4	Discounts and offers	16007	72.43	7
5	User friendly	16529	74.79	3
6	**Time saving**	**16794**	**75.99**	**2**
7	**Payment from anywhere**	**16850**	**76.24**	**1**
8	Cash back options	15945	72.15	8
9	**Peer group influence**	**15062**	**68.15**	**12**
10	**Status symbol**	**14634**	**66.22**	**13**
11	Easy tracking of transactions	16361	74.03	5
12	Easy refund of default transactions	16066	72.70	6
13	Compatible with current technology	16433	74.36	4

Source: Author's own calculation based on Garrett Rank Conversion Table

The estimation of Garrett total scores and average scores of Garrett values are given in table 4,. The corresponding rankings of factors influencing usage of e-wallets in the National Capital Region are also shown in the same table. The last column of table 4 reflects the ranks which have been calculated on the basis of mean scores (total score/621). The ease of "payment from anywhere" appears as most important factor for encouraging use of e-wallets and was ranked 1. In order of significance, it is followed by: time saving (rank 2), user friendliness (rank 3), e-wallets' compatibility with current technology (rank 4), ease of transactions tracking (rank 5), easy refund of default transactions (rank 6), discounts and offers (rank 7), cash back options

(rank 8), security (rank 9), privacy (rank 10) and transaction charges (rank 11). The results are consistent with Reddy *et al.* (2017); Uddin and Akhi (2014) and Osakwe and Okeke (2016). However, status symbol (rank 13) and peer group influence (rank 12) are least encouraging factors for e-wallets usage. These findings vary from those of Brown and Venkatesh (2005); Chong (2013), Khalifa and Cheng (2014) and Mun (2017) as their studies claimed that social stimulus had substantial impact on the willingness to use e-wallets. On the contrary, the findings of current research indicates that societal control does not have a substantial effect on usage of e-wallets, are consistent with the studies conducted by Shin (2009) and Hidayanto *et al*. (2015).

Purpose and problems of using e-wallet

Generally e-wallets are being used by most of the population under study, however the purpose for which they use these e-wallets and the challenges they encounter while using the same are discussed in detail under this section. With the application of similar statistical technique of Garrett Rank Analysis (explained above) the most preferred purpose or service for which e-wallets were used and the most challenging factor obstructing the usage of e-wallets have also been identified. The study found that the e-wallets were most preferred for mobile recharge followed by bill payments and online shopping, however it was least preferred for toll payments and fuel charge payments. Moreover, it was also established that the most critical factor causing hindrance in usage of e-wallets was the frauds that happen with most of the people followed by auto debit, duplicate payments and long transaction time. The results of the current study are consistent with the studies conducted by (Seetharaman *et al.*, 2017).

Reasons for non-usage of e-wallets

In order to draw a complete picture of all the respondents under study and to evaluate each and every response collected, the analysis was also conducted on 64 non users of e-wallets. The analysis was focused on identifying the fundamental reason behind the non-usage of e-wallets by non-users. Table 5 depicts the frequency and percentage of the reasons stated by the respondents for not using e-wallets.

Table 5. Reasons for not using e-wallets

Reason	**Frequency**	**Percentage**
Security concerns	23	35.94
Not habitual of	29	45.31
Lack of transparency	0	0.00
Not acceptable at all places	5	7.81
Uncomfortable	2	3.13
Technical literacy	1	1.56
Login requirements	3	4.69
Internet requirement	1	1.56
Total	**64**	**100**

Source: Primary survey.

Table 5 clearly shows the various reasons of not using e-wallets by non-users. It can be observed from the values in the table 5 that 29 (45.31%) respondents were not using e-wallets as they were

not habitual of using e-wallets and 23 (35.94%) respondents expressed security concerns as the major issue for not using e-wallet services. The results of the Malik and Khatter (2016) also highlighted that security concerns are also one of the reason for creating hindrance towards the usage of online application. Out of the total non-users, a very meagre proportion of people stated that they were not using e-wallets because of technical literacy (1.56%), internet requirements (1.56%) and comfort issues (3.13%).

Conclusion, implication, suggestion, and limitations

The aim of this study was to understand the e-wallets and the factors impacting customers' preference for the usage of e-wallets. After collecting data through questionnaires and performing the analysis, the most inducing reasons for the use of e-wallets were found to be the facility to pay from anywhere, time-saving and user-friendly interface. Moreover, paytm and googlepay were observed to be the most frequently used e-wallet among the available options. The study indicated that users use e-wallets primarily for mobile recharge followed by payment of bills and online shopping, however people are reluctant to use e-wallets for paying tolls and fuel charge payments. Having offered multiple benefits to the user, still there are few challenges wherein fraud and auto debit were identified as the biggest challenges by the users. The study also investigated the reasons for not using the e-wallets at all, the result highlighted that people do not feel secure and are not habitual of this facility.

E-wallets are quickly becoming mainstream mode of online payment. Shoppers are adopting e-wallets at an incredibly rapid pace, largely due to convenience and ease of use. There's no question that in future e-wallets will gain more widespread acceptance. Keeping this background into the consideration, the current study suggests that e-wallet providers must emphasis to ensure the smooth and secured conduct of transactions and should organize e-wallets awareness campaigns to make people comfortable towards the usage of e-wallets.

Due to the research objectives, the questionnaire was distributed only to the people residing in Delhi/NCR. From the point of view of data collection techniques, researchers have made efforts to improve the response rate. Several attempts have been made by repeated follow ups to the respondents. The response rate was still low, however. The future research can be directed towards more rigorous analysis for understanding the psychology of the non-users of e-wallets. Also, inclusion of more variables and geographical locations will add new dimension to the subject.

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