Role of Mobile Wallet in Online Shopping

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Abstract: As the payments industry evolves and accelerates, growth in mobile and electronic payments is generating a lot of interest. With an expectation of significant uptick in volume and value in the years to come, the market remains attractive for diverse entities in the payments eco-system. After demonetization, most banks have remained in the background of all these developments and have not created the buzz, given their hold on the value chain. As the adoption of the digital wallet increases, it is the right time for banks and financial institutions to begin charting their journey or run the risk of being left behind. Mobile Wallet is a new concept in India that has been surpassing credit card usage and is fastly beginning to replace the traditional payments methods. It is a part of electronic commerce. RBI authorized the prepaid Mobile Wallet. A mobile wallet, in simple terms, is a virtual mobile based wallet where one can store cash for making offline or online payments. With the emergence of mobile wallet, the role of Mobile Wallet in online shopping is increasing. This paper is an attempt to discover the contribution of digital wallet in inline shopping. Primary data is collected from 100 users of digital wallet form Delhi NCR and out of them mostly are students and employees. The results are encouraging for wallet providers as the respondents are actively used the wallet in various types of shopping.

Keywords: Mobile Wallet, Online Shopping

I. INTRODUCTION

In the Non-Confidential GSMA White Paper, mobile wallet was defined as "a software application on a mobile handset that function as a digital container for payment cards, tickets, loyalty cards, receipts, vouchers and other items that might be found in a conventional wallet.

The mobile wallet enables the user to manage a broad portfolio of mobile NFC [Near Field Communication] services from many different companies" (GSMA, 2012). In other words, mobile wallet is "formed" when your smartphone functions as a leather wallet: it can have digital coupons, digital money (transaction), digital cards, and digital receipts...etc. all in your smartphone. This means, you install the application that are created by some companies such as Google Inc., Apple Inc. or PayPal in your phone, and use those applications to pay directly for the products you have purchased (online/offline).

A digital wallet refers to an electronic device that allows an individual to make electronic commerce transactions. This can include purchasing items on-line with a computer or using a smart-phone to purchase something at a store. Increasingly, digital wallets are being made not just for basic financial transactions but to also authenticate the holder's credentials. For example, a digital-wallet could potentially verify the age of the buyer to the store while purchasing alcohol. It is useful to approach the term "digital wallet" not as a singular technology but as three major parts: the system (the electronic infrastructure) and the application (the software that operates on top) and the device (the individual portion).

An individual's bank account can also be linked to the digital wallet. They might also have their driver's license, health card, loyalty card(s) and other ID documents stored on the phone. The credentials can be

passed to a merchant's terminal wirelessly via near field communication (NFC). Certain sources are speculating that these smart-phone "digital wallets" will eventually replace physical wallets.

II. MOBILE WALLETS IN INDIA

Some of the top rated mobile wallets are;

PayTM, Pay U Money, Oxigen, Mobikwik, Citrus, Buddy (State Bank), Pockets (ICICI Bank), Chillr (HDFC Bank), LIME (Axis Bank). Some other available mobile wallets are – YPAY CASH, Citi Master Pass, Speed Pay etc.

Mobile wallet is a very young concept in India that has taken on consumer psyche rapidly. Everyone is loving mobile wallets and embracing them with open arms. Today, mobile wallet is one of the successful business ideas for start-ups. The evidence lies in the fact that it has surpassed credit cards in terms of the number of users in just a fraction of time. Vijay Shekar Sharma's venture Paytm alone has 20 million active users. The number is higher than the cumulative number of credit cards in India. At present, there are 10-12 mobile wallet companies operating in the country.

Advantages of Digital Wallet

1. Ease of use – It's like a one click pay with no need to fill in card numbers and passwords every time. One can link their credit cards, debit cards and bank accounts and pay immediately with no hassle to enter the details each time.

2. Ease of access – There will be no need of physical wallet like we do in the case of cash or cards. Also, mobile wallets are upgrading to allow you to store your documents digitally like your Driving License, Aadhar Card, Pan Card, etc.

3. There will no issue of asking or searching for change which we have while handling cash.

4. It will be possible to make instant payments. Just like we can exchange cash at any moment, we can exchange and transfer money anytime.

5. There would synchronization of data from multiple platforms. Bank accounts, credit and debit cards, mobile accounts and bills - all will be interconnected and help in better management. It's like everything is under one roof.

6. It is extremely useful for humongous unorganized sector where cash is considered as the most suitable medium. Exchange of money through mobile wallet at chaat stalls, street vendors, small shops, etc. would remove the need to carry cash/cards at such places.

Disadvantages

1. Mobile network connectivity is the biggest impediment. Network problems and reliable and fast internet connectivity is not available in most of the developing countries.

2. More than connectivity, security issues are at the forefront nowadays. People are always under the fear of misuse of their money by hackers and frauds. They always feel safer to have cash. Again there are also issues of identity theft that need to be addressed. Issue of pick-pocketing will be replaced by these concerns.

3. Enough support infrastructures is not available. In countries like India there is not enough financial inclusion and financial literacy. Unless that builds up, there is no use in bringing in more and more advanced technologies.

4. It also does not cater to needs of the entire population. It's an app on a smart phone. Most of them are using simple cell phones. Plastic money and m-commerce has not yet caught up completely throughout the entire nation. This is a Smartphone app. People can be skeptical enough to mention battery backup of smart phone as a reason to stay away from this.

5. India does not have a solid dispute resolution processes. Experiences of people with the customer service agents too are not encouraging.

6. There are many wallet operators and there is still no clear idea as to whether payments to other wallet operators would be possible or not. For e.g. Airtel Money should be able to pay to SBI Buddy.

7. Replacing day-to-day transactions with money is easier said than done. For e.g. in a crowded bus, buying a ticket by paying a conductor through mobile wallet does not seem a viable option. It might be possible but it's a challenging task.

In India, even Rs. 5 to Rs.10 transactions take place. Such small transactions are huge in number and need to be handled carefully with no mix-ups. The companies cannot ignore these transactions as they form bulk of spending in India. It is a challenging task to make mobile wallet an integral part of the life especially Indian life. However, there is hope as similar reservations were seen in case of plastic money too.

There is going to be a change and we must adapt to it and accept it. Albert Einstein said, "The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking." Since mobile wallets are going to be the next thing just like the plastic money were a decade back, it's important that we allay our fears, change our mindset and start adapting to such technological innovations, to improve our efficiency when it comes payments and money management. It's just as Elizabeth Warren says that ' Balancing your money is the key to having enough.'

III. LITERATURE REVIEW

Venkatesh explored the variables affecting consumer integration of new information technology innovations. They collectively formed a model called the Unified Theory of Acceptance and Use of Technology (UTAUT) and suggested that individual reactions to using information technology directly affect intentions to use information technology that in turn influences the actual use of information technology.

Lu, Yao and Yu suggested that behavioural sciences and individual psychology are strong determinants of adoption of mobile technology. They suggested that while perceived usefulness and perceived ease of use are strong variables in consumer willingness to adopt mobile technology, variables such as personal innovativeness and social influence must also be taken into consideration in determining consumer acceptance.

Lee investigated the impact of perceptions of interactivity on consumer trust and transactions in mobile commerce and concluded that trust does in fact play a significant role in determining consumer transaction intentions.

Lin and Wang examined the factors that contributed to customer loyalty in mobile commerce; perceived value and trust were found to be directly related to customer satisfaction and customer loyalty; customer satisfaction was also suggested to positively affect customer loyalty; and habit was proposed to determine customer loyalty. They also found that customer loyalty was directly affected by perceived

value, trust, habit, and customer satisfaction. Customer loyalty was evaluated to be a strong determining factor in acceptance of mobile commerce.

Pavlou, studied the drivers of consumers to participate in mobile commerce by examining three interrelated behaviours including getting information, giving information, and purchasing with mobile devices. Mobile purchasing involves a satisfying exchange relationship between products/ services offered and the mobile device that uses WAP (Wireless Application Protocol).

Amoroso and Hun singer developed a model to better understand the factors that are most important in predicting consumers' behavioural intention to purchase over the Internet. This research expands the original TAM by incorporating additional constructs such as trust, privacy, perceived risk, expectations of Internet information and Web site quality, e-satisfaction, and e-loyalty. This research showed significant relationships with factors including inertia, convenience, perceived value, and e-loyalty all influenced the e-satisfaction construct with respect to mobile applications.

Kuo, Wu, and Deng found that service quality positively influences both perceived value and customer satisfaction. Perceived value positively influenced both customer satisfaction and post-

purchase intention and that customer satisfaction positively influenced post-purchase intention. Several studies examined online payments acceptance building the infrastructure for mobile payment applications.

He and Mykytyn examined the factors for consumer adoption of online payment systems. They found that a majority of participants favoured the concept of online payments with the primary consideration of risk being associated with making online payments.

Rigopoulos and Askounis developed a model to examine users' attitude towards adopting online payments and proposed evaluating consumers' adoption of proposed technology finding perceived usefulness, perceived ease of use, and intention to use as all being positively associated with consumers' actual usage of online payments.

Luo, Zhang and Shim examined trust and risk perceptions in the adoption stage of the wireless Internet platform, suggesting a research model to suggest factors such as trust, risk, self-efficacy, and performance expectancy which drive the consumer acceptance of mobile banking services.

Deng, Lu, and Chen tested a model for online banking acceptance with three new constructs including perceived credibility, SMS usage, and perceived service cost. Neither perceived ease of use, perceived credibility, nor perceived cost was found to have significant effects on user's behavioural attitude toward mobile banking. The next set of research studied the adoption of mobile payments.

Pousttchi and Wiedermann evaluated what key influences affected consumers to use mobile payments and found that subjective security was not a primary driver of mobile payment acceptance. They found that perceived confidentiality of payment details and perceived trustworthiness were strongly correlated. Four key variables were found to directly impacting consumer intention and usage behaviour: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Chen examined which determinants affected consumer use of mobile payments (m-payments). Consumer acceptance was determined by four factors: perceived use, perceived ease of use, perceived risk, and compatibility. The strongest factor to sway consumer acceptance was compatibility. Compatibility refers to the extent to which M payment is consistent with the prospective user's lifestyle and the way he or she likes to shop.

Cheong, Park and Hwang concluded that perceived facilitating conditions were directly related to perceived usefulness and intention to use. However, move-in cost and attractiveness of alternatives were negatively related and facilitating condition was in fact found to be a significant contributor of perceived usefulness and intention to use. Consumers that have little loyalty to credit card companies would possibly be more readily open to switching to mobile payment services.

Mallat and Tuunainen looked at the factors affecting merchants' acceptance of mobile payment systems are evaluated and found that the primary adoption drivers that directly affect implementation of mobile payment systems are related to the objective of either increasing sales or reducing costs of payment processing. They suggested barriers of such mobile payment adoption for merchants include complexity of the systems, unfavorable revenue, lack of critical mass, and lack of standardization. They primarily identified primary prerequisites, drivers, and barriers that influence the merchant's adoption of mobile payment systems.

Mbogo studied the various factors that contribute to success with use of mobile payments within microbusinesses in Kenya, concluding that convenience of the money transfer technology plus its accessibility, cost, support and security factors are related to behavioural intention to use and actual usage of the mobile payment services. He concluded that perceived convenience, perceived ease of accessibility, and perceived support had positive direct relationships with the intention to use mobile payment services.

Kim, Chan, and Gupta empirically analysed the adoption of mobile Internet in terms of value to the consumer, suggesting that intention to adopt mobile Internet is directly related to the consumers' perception of the value of mobile Internet, confirming that consumers' perception of the value of mobile Internet is a principal determinant of adoption intention, and the other beliefs are mediated through perceived value. It was found that value perception was a key determinant role in mobile Internet adoption.

IV. RESEARCH OBJECTIVE

The key objectives of the research are identified as following:

- To know about the consumer awareness level of Mobile Wallet.
- To understand about the Consumer adoption status of Mobile wallet.
- To examine the market situation of mobile Consumers towards wallet.
- To know about the factors which influence the adoption of mobile wallet.

V. RESEARCH METHODOLOGY

Data Sources	:	Primary & Secondary data
Data Collection Method	:	Survey using Questionnaire
Sample Procedure	:	Simple Random Sampling
Survey Area	:	Delhi (NCR)
Sample Size	:	100

VI. ANALYSIS

Out of 100 Respondents, 24% , 50% , 6% , 2% , 12% , 2% , 2% , 2% are using Oxigen, PayTM, Freecharge, Buddy, Mobikwik, Pockets, Payzapp, & other wallet Respectively. Paytm is most favored wallet service amongst all in the list.

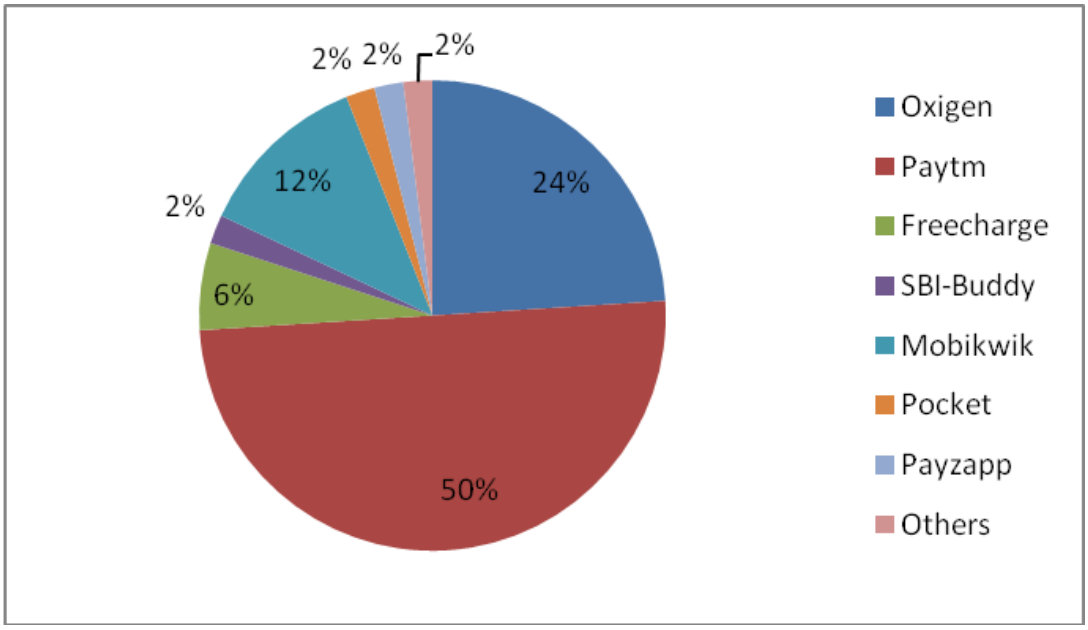

Figure: 1. Preferences of Wallets by Users

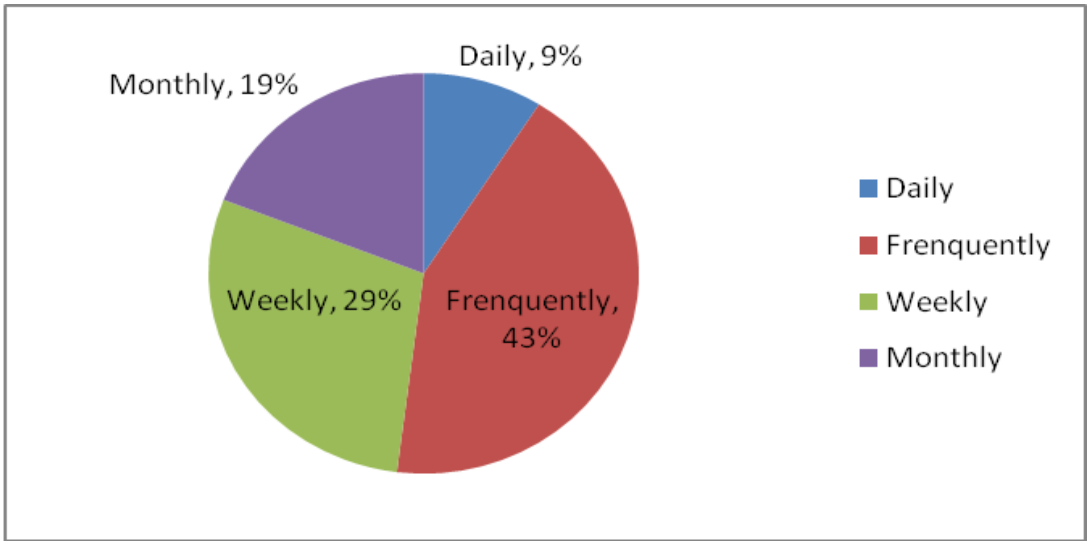

Figure: 2. Frequency of using Wallet Services

Out of 100 Respondents, 9%, 43% , 29% , 19% are used Mobile Wallet services Daily, Frequently, Weekly & Monthly Respectively. Most of the respondents used wallet services frequently.

3. Responses received according to their Usage behavior for Mobile Wallet:

Table 1: Responses received according to their Usage behavior for Mobile Wallet

S.N.	Usage	SP	R	MT	BP	Offers	CF	MT	PM
1	Less used	16	4	22	8	4	38	26	60
2	Less than Neutral	12	12	20	28	26	28	20	28
3	Neutral	12	10	24	16	20	16	18	8
4	More than Neutral	24	8	18	28	6	10	22	0
5	Most used	36	66	16	20	6	8	14	4
Total		352	420	286	324	170	222	278	160
Mean Score		35.2	42	28.6	32.4	17	22.2	27.8	16

Legends: SP – Shopping Payment; R – Recharges; MT - Money Transfer; BP- Bill Payment; MT – Movie Tickets; PM- Pool money function; CF - Cab Fare

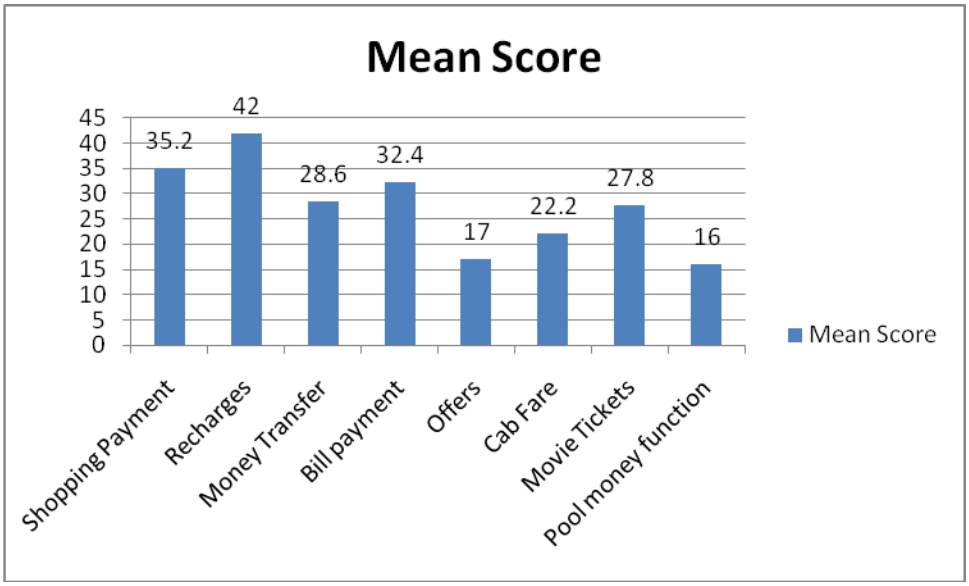

Figure: 3. Mean Score Chart of Usage Behavior

VII. INTERPRETATION

By the above table we interpret that Recharge is the factor for which for which mostly consumers use Mobile Wallet and the factor for which least consumer use Mobile Wallet is for Pool money function.

4. Matter of concern for respondent in Mobile Wallet with respect to following:

Table: 2. Matter of concern for respondent in Mobile Wallet

S.N.		Transaction Error	Unauthorized use	Security	Complex Procedure
1	Low Concern	16	24	6	20
2	Less than Neutral	30	16	22	46
3	Neutral	22	26	18	14
4	More than Neutral	16	14	30	16
5	High Concern	16	20	24	4
Total		286	290	344	238
Mean Score		28.6	29	34.4	23.8

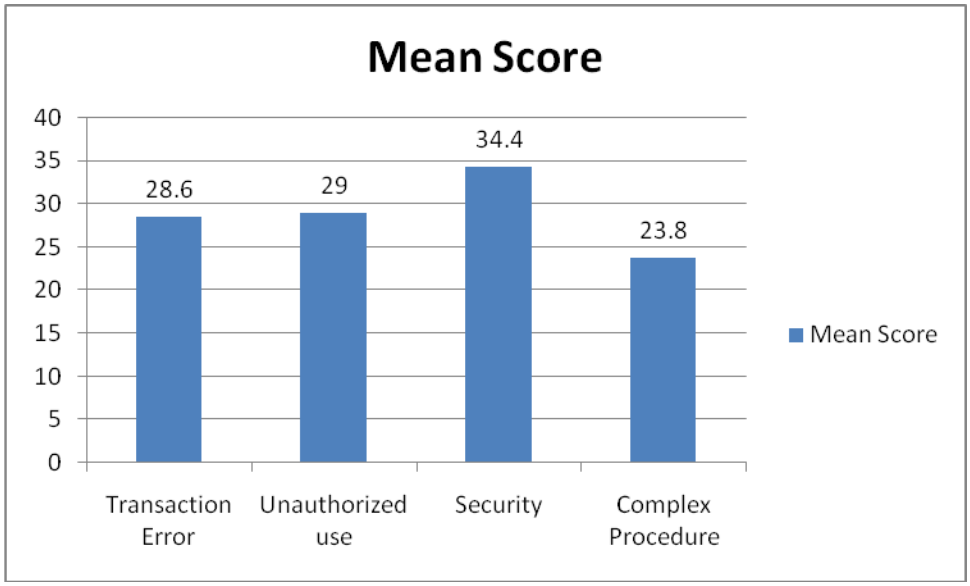

Figure: 4. Mean Score Chart showing Matter of Concerns

VIII. INTERPRETATION

By the above table we interpret that in Mobile Wallet the factor which is a high matter of concern for consumers is Security and the factor which is a low matter of concern for consumers is its Complex Procedure.

5. Influencing factor for Mobile Wallet

Table: 3. Influencing factor for Mobile Wallet

S.N.		Time Saving	Secure Payments	Best Deals	Fastest Check out	Rescue from waiting in Queue
1	Influence less	6	6	8	2	2
2	Less than neutral	10	12	38	12	12
3	Neutral	10	24	14	22	22
4	More than neutral	24	28	22	32	32
5	Influence most	50	30	18	32	32
Total		402	364	304	380	380
Mean Score		40.2	36.4	30.4	38	38

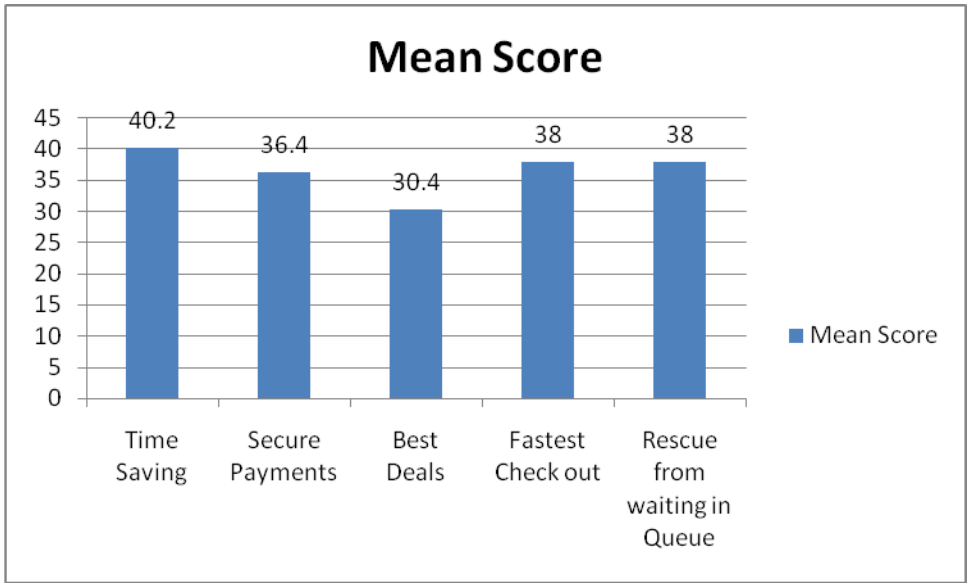

Figure: 5. Chart Showing Mean Score of Factors Influencing

IX. INTERPRETATION

The factor which influences consumers for using Mobile Wallet is Time Saving and the factor which least influences consumers for using Mobile Wallet is Best Deals.

Major Findings

- In terms of Demographic Profile major respondent belong to this category.
  - ✓ Males with respect to Gender.
  - ✓ 18-25 with respect to age.
- It has been found that most of the consumers are familiar with Mobile Wallet.
- It also has been found that most of the consumers are using PayTM wallet i.e. 50%, after that they prefer Oxigen wallet as it is used by 24% consumers.
- If we talk about the usage of Mobile Wallet services with respect to time then it is found that most of the consumers i.e. 38% use Mobile Wallet services very frequently & only 4% of the consumers use Mobile Wallet services daily.
- It has been analysed that most of the consumers i.e. 50% are using Mobile Wallet services from several months and least of the consumers i.e. 4% are using Mobile Wallet services from several days.
- The association between Demographic profile of the Respondents and the currently using Mobile Wallet services in Online Shopping is significant.
- The factor for which most of the consumer use Mobile Wallet is for Recharges i.e. 66% of the respondents uses Mobile Wallet for doing recharges

  & the factor for which least of the consumer use Mobile Wallet is for Pool money function i.e. 4%% of the respondents uses Mobile Wallet for it.

- The factor which is a high matter of concern for most of the Respondents is Security i.e 24% of the consumers are concerned about it.

  & the factor which is a low matter of concern for most of the Respondents is Complex Procedure i.e. only 4% of the consumers are concerned about it.

- The factor which influences most of the Consumers for using Mobile Wallet is Time Saving i.e. 50% of the Consumers uses Mobile Wallet to save their time & the factor which influence least, the Consumers for using Mobile Wallet is Rescue from waiting in Queue i.e. only 14% of the Consumers uses Mobile Wallet to Rescue from these waiting queues.
- It has also been analysed that most of the Respondents are not satisfied with the services of Mobile Wallet due to the Rate of error occurred during transactions. Transaction error is the big problem due to which consumers' preference towards Mobile Wallet is low.
- It has been analysed that the Role of Mobile Wallet in Online Shopping is not too big. Only 36% of the consumer uses Mobile Wallet for it.

X. CONCLUSION

- The association between Demographic profile of the Respondents and the currently using Mobile Wallet services in Online Shopping is significant.
- If we talk about the usage of Mobile Wallet services with respect to time then it is found that most of the consumers i.e. 38% use Mobile Wallet services very frequently & only 4% of the consumers use Mobile Wallet services daily.
- The factor for which most of the consumer use Mobile Wallet is for Recharges i.e. 66% of the respondents uses Mobile Wallet for doing recharges & the factor for which least of the consumer use Mobile Wallet is for Pool money function i.e. 4%% of the respondents uses Mobile Wallet for it.
- The factor which influences most of the Consumers for using Mobile Wallet is Time Saving i.e. 50% of the Consumers uses Mobile Wallet to save their time & the factor which influence least, the Consumers for using Mobile Wallet is Rescue from waiting in Queue i.e. only 14% of the Consumers uses Mobile Wallet to Rescue from these waiting queues.
- It has been analysed that most of the consumers i.e. 50% are using Mobile Wallet services from several months and least of the consumers i.e. 4% are using Mobile Wallet services from several days.
- It has also been analysed that most of the Respondents are not satisfied with the services of Mobile Wallet due to the Rate of error occurred during transactions. Transaction error is the big problem due to which consumers' preference towards Mobile Wallet is low.

XI. SUGGESTIONS & RECOMMENDATIONS

- Mobile Wallet service providers must work on the very Big problem of all Respondents, the Transaction error occurred.
- To enhance the customer satisfaction, they must work on refundable cashback immediately in case of Transaction failed.

- Some efforts should be taken by Mobile Wallet service providers to enhance the Role of Mobile Wallet in Online Shopping.
- To improve the users rate of Mobile Wallet the Mobile Wallet service providers must work on improving the security so that users can do transactions through it without any fear.

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical statement: The authors declare that they have followed ethical responsibilities.

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