M-Wallet Services: A Study on its Growth in Post-Demonetization Period and Exploring Factors on Users' Satisfaction

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Abstract

Smartphone has become essential part of daily life around the Globe. Due to advanced technology, mobile users started to use their Smartphones to make money transaction or payment by using applications installed in the phone. It widely known as Mobile Wallet or Digital Wallet. Mobile Wallet (M-Wallet) services have enabled convenience and ease of transaction, and have made transactions much more secure. In India, M-Wallet service is available since 2004 whereas it being on the trend among millions of people in post-demonetization. So, this empirical and analytical research paper measures the growth of M-wallet services in post-demonetization and also to explore the factors that determine the satisfaction level among the users of M-Wallet services. This study reported that the growth of M-wallet service indicates a better growth both in terms of its volume and value of transactions for the reference period. Based on the users' perception, this study reveals that availability of financial Services, security concern, privacy provided by M-Wallet, Wide acceptance and quick fund transfer are the major factors that determine the satisfaction level towards M-wallet services.

Keywords: Digital Wallet, Mobile Payment, Mobile Wallet, Mobile Money

Introduction

After the NDA Government came to power in 2014, vigorous initiatives and innovations have been introduced in almost all facets of national life. In 2015, Government of India launched a flagship programme named Digital India with the intention to develop India into a knowledge economy and a digitally empowered society by ensuring digital access, digital inclusion, digital empowerment and also enables creation of an honest, transparent and progressive less cash economy. The mother of all action was at 8 pm on 8th November, 2016. The prime minister announced demonetization of higher value currencies Rs. 500 and Rs. 1000 notes worth Rs 15 lakh crore to bring out black money out of the closets. One of the important objective of demonetization was to make India a less cash economy and thereby reduce the flow of black money in the system. Moreover, union budget 2017-18 is giving much more importance to adoption of digital payment methods in various areas. Driving the development and modernization of the payment system, it has promoted transparency and accountability; reduced transaction costs and have decrease the size of the grey or informal economy. India is making an attempt to transition to a digital payment which aims to transform India into a cash-lite economy and ensure that the country has a 'state-of-the-art' payment and settlement systems that are safe and secure (Payment And Settlement Systems In India: Vision – 2019-2021; Reserve Bank of India). Currently, as part of promoting cashless transactions and converting India into less-cash society, various modes of digital payments are available. They are banking cards, Unstructured Supplementary Service Data (USSD) channel, Aadhar Enabled Payment System (AEPS), Unified Payments Interface (UPI), Banks prepaid cards, Point of Sale (PoS), Internet Banking, Mobile Banking, Micro ATMs and Mobile Wallets (M-wallets). Now-a-days, people started finding M-wallet is the best mode to conduct various financial services. The first M-wallet service launched by oxigen wallet in July 2004 but M-wallet services are most successful in post- demonetization and currently, over 40 M-wallet operators exist in the market. It provides access to financial services to the millions of people who have a smartphone, and it provides people with a safe, secure and affordable way to send and receive money, mobile recharge, make bill payments and much more. Further, it makes faster purchases at merchant points via QR code. In India, both banks

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and some private companies offerings M-wallet services and currently, over 40 M-wallet brands are available in the market. Among them, top 10 M-wallets in India are according to its number of users are Paytm, Amazon Pay, Google Pay, PhonePe, Mobikwik, SBI Yono, Citi Masterpass, ICICI Pockets, BHIM Axisapy and HDFC Payzap.

Objectives of the study

❖ To measure the growth of M-Wallet services in Post-demonetization period
❖ To explore the factors that determinants of satisfaction level among the users of M-Wallet services
❖ To assess and analyze the satisfaction level towards M-Wallet services across demographics

Hypotheses of the study

❖ Ho1: There is slow growth of M-Wallet services in Post-demonetization period
❖ Ho2: A few variables that are determine the satisfaction level among users of M-wallet services
❖ Ho3: There is no significant association between demographic factors of the users of M-Wallet services and their satisfaction level.

Review of Literatures

Jason et al. (2018) identified technology innovation, evolution of a new value chain and active customer demand are the important drivers on success of M-Commerce. Chawla and Joshi (2019) in their empirical study examine that influencing factors on consumer's attitude and intention to use M-Wallets through Technology Acceptance Model (TAM). There are six different factors namely ease of use, usefulness, trust, security, facilitating conditions and lifestyle compatibility have a significant impact on the consumer attitude and intention to use M-wallet services. Dinh et al. (2018) in their study reported that the perceived usefulness, promotional offers, convenience and public acceptance are the major drivers on acceptance of M-payment services whereas satisfaction with the quality of the services increased use experience and enhanced consumers' expectations, which in turn positively affected loyalty and purchase intentions (Ramadan and Aita, 2018). Some barriers are concerned to adoption of the said service namely lack of trust, complexity and limited opportunities for usage Dinh et al. (2018). Moreover, the active use of M-Money services has significant impact on spending behavior (Cobla and Osei-Assibey; 2018) and it increases average spending behavior than the others who do not use M-Money. Samudre and Gramopadhye (2018) concluded that Paytm users are in the satisfied category towards various services but users have an issues in ease of use, security issues and slow network server. Vikas and Arun Kumar (2018) identified that easy to use and wallet free is the pros of Paytm app whereas security issues, connectivity issue and unaffordable are cons of Paytm app among the Indian consumers.

Methods and Materials

This analytical and empirical research design were used both secondary and primary data. The secondary data helps to measure the growth of M-Wallet services based on the volume and value of M-Wallet transactions in post-demonetization period. The primary data helps to find out the factors that determine satisfaction level towards preferred brand of M-Wallet services. 83 valid responses were used for final study. In order to users of three different M-wallet services namely Phonepe (n=61.4%), Paytm (n=25.3%) and Google Pay (13.3%) were considered. The secondary data were collected from the report published by authorized website of Reserve Bank of India for the total period of 35 months from Nov' 2016 to Sep'2019 and the primary data collected in Coimbatore district of Tamil Nadu state. The primary data collected through the self-designed questionnaire and it accomplish the objectives of the present study. The primary data were collected during the month January to April' 2019. The questionnaire covers two parts like Demographic factors Gender, Age group, Education, Occupation, Monthly income and Place of Living and second part includes variables that are related to satisfaction towards M-Wallet services. The response against satisfaction level has been collected through five-point likert scaling technique. Purposive sampling method is adopted and the inferences draw from the application of Mean, least square trend, Correlation, Discriminat analysis and Chi-Square test ($\chi 2$) test.
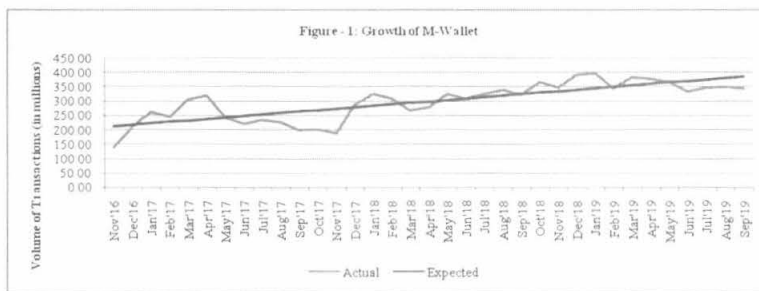
Analysis and Discussions

4.1 Growth Movement of M-Wallet Services in Post-Demonetization Period

Table – 1: M-Wallet Services in Post-Demonetization Period		
	M-Wallet Services	
Statistic	**Total**	**Mean**
Volume of Transaction (in million)	104556	299
Value of Transactions (Rs. in Billion)	4192.37	119.78
M-Wallet Services in Pre-demonetization period (2013-14 to 2016-17)		
	Total	**Mean**
Volume of Transaction (in million)	966.49	322.16
Value of Transactions (Rs. in Billion)	316.73	105.57
Source: Reports from RBI		

Table 1 shows that the volume of M-Wallet transactions during Nov'16 to Oct'19 were 10456 million with an average of 299 million per month and its value shows that Rs. 4192.37 Billion during the study period with an average of Rs. 119.78 Billion per month which indicates a better growth on M-wallet services in post-demonetization period whereas on an yearly average 322 million volume of transactions with Rs. 106 Billion business has been takes place during the period from 2013-14 to 2015-16. Availability of smartphones at lowest price, increased internet subscribers, offering 4G data at lower costs, digital India initiatives, increasing awareness among the public irrespective of areas, several M-wallet providers exists in the market and also speedy adop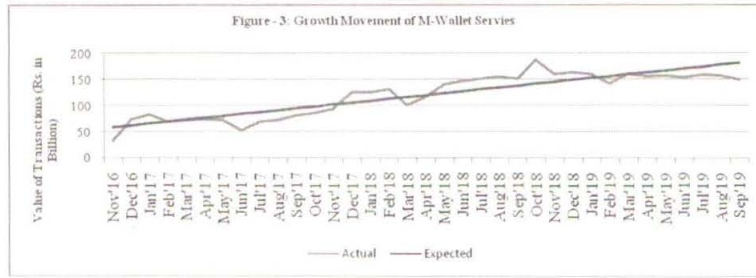tion of technologies in financial services are the mainly influenced to the better growth of M-Wallet services in Post-demonetization period. In post demonetization period the actual growth of M-wallet services shows both up and downward tendency in terms of its volume (Refer figure -2) and value (Refer figure – 4) of transactions. In the recent past, the actual and expected growth of M-Wallet services according to its volume of transactions continuously descending trend during the period from May'17 to Nov'17 (Refer figure – 1) as well as in terms of value of transactions during Apr'19 to Sep'19 (Refer Figure – 3). Moreover, this study predicts that M-wallet services which will cross 400 million (Refer Figure – 2) in terms of its volume and Rs. 200 Billion in terms of its value (Refer Figure – 4) of transactions in Mar'2020

Source: Reports from RBI

Source: Reports from RBI

Figure - 3: Growth Movement of M-Wallet Servies

Source: Reports from RBI

Figure - 4: Month-on-Month Growth movement of M-Wallet Services

Source: Reports from RBI

4.2 Volume and Value of M-Wallet Transactions – Correlation Analysis

Table – 2: Relationship of Volume and Value of M-Wallet Transactions	
Correlation (r)	0.876**
N	35
Sig.	P<0.01
Sig. at 1% level; *Sig. at 5% level; NS = Not Sig. at 5% level	
Source: Secondary data	

Table 2 shows that the 'r' value between volume and value of M-wallet transaction is 0.876 and statistically significant at 1% level, which indicates a strong degree of correlation. So, the M-Wallet service providers asked to give more incentives, rewards and offers at maximum possible extent because only the volume of M-wallet transactions has been increased business value of M-Wallet services.

Satisfaction towards Preferred Brand of M-Wallet Services

Table 3 shows that mean score of satisfaction of users on various parameters towards M-Wallet services. It explained that more than half of the users are in the higher satisfied group towards preferred M-wallet services.

Table - 3: Mean Scores on Satisfaction Level towards Preferred M-Wallet

Variables	Satisfaction level towards M-Wallet Services	
	Higher (n = 54.22%)	Lower (n = 21.69%)
X1-Quick fund transfer	3.80	2.56
X2-Availability of Financial Services	3.87	1.72
X3-Security concerns	3.53	1.83
X4-Rewards and Incentives	3.91	2.28
X5-Range of uses (ex. Bill payments, recharge etc)	3.89	2.94
X6-Privacy provided by M-Wallet	3.47	2.17
X7-Cash back offers	3.96	3.39
X8-Availability of discounts/offers	4.18	2.33
X9-Wide acceptance of M-Wallet	3.29	2.11
Source: Field Survey		

Table - 4: Satisfaction Level towards Preferred M-Wallet:

Tests of equality group Means Univariate ANOVAs		
Variables	Wilks' Lambda	f (df = 1, 61)
X1-Quick fund transfer	0.666	30.637**
X2-Availability of Financial Services	0.357	109.922**
X3-Security concerns	0.608	39.282**
X4-Rewards and Incentives	0.589	42.478**
X5-Range of uses (ex. Bill pauments, recharge etc)	0.805	14.762**
X6-Privacy provided by M-Wallet	0.751	20.174**
X7-Cash back offers	0.907	6.266*
X8-Availability of discounts/offers	0.546	50.746**
X9-Wide acceptance of M-Wallet	0.762	19.079**
**Sig. at 1% level; *Sig. at 5% level; NS = Not Sig. at 5% level		
Source: Field Survey		

Discriminant fitted model

Test Functions:
Eigen value: 7.431
Percentage of variance explained: 100
Wilks Lambda: .119
Chi-square = 122.587**   DF = 7; p= <0.01
Canonical correlation: 0.939

Table – 4 shows that the calculated 'f' value towards users' satisfaction level of selected variables statistically significant. The canonical correlation is 0.939 when squared is 0.882 that is 88.2% of the variance in the discriminant group can be accounted by this model, Wilk's Lambda and chi-square value is significant at one percent level. Therefore, the selected variables that are eligible to discriminating the satisfied groups. Based on the selected variables the corresponding discrimininat functional coefficients are calculated. Discriminat fitted model is

D = -14.742+.627 X1+.698 X2+ 0.614 X3 + .531 X5 + .721 X6+ .562 X7+0.729 X9

Furthermore, for using the above model the observed predictor variables that are classified into satisfaction groups. The correct percent of classification is presented in the Table – 5.

Table – 5: Percentage of Correct Classification of the Users of M-wallet Services

Satisfaction level towards preferred M -Wallet	Higher	Lower	Total
Higher	45 (100)	0 (0)	45 (100)
Lower	0 (0)	18 (100)	18 (100)
Source: Field Survey			

Relative Importance of predictor variable towards Preferred M-Wallet Services

The relative importance of each predictor variables in discriminating between the higher and lower satisfied category is obtained and the results are presented in the table - 6. Among the selected variables under study, five variables namely Availability of Financial Services-X4, Security concerns–X2, Privacy provided by M-Wallet-X6, Wide acceptance of M-Wallet-X9 and Quick fund transfer-X1 are substantially important variables in discriminating between groups of users namely with lower and with a higher satisfaction level towards the preferred brand M-Wallet services.

Table – 6: The relative importance of variables in discriminating between the groups (Satisfaction towards Preferred M-Wallet Services)

Explanatory variable	Relative Importance	Rank
X1-Quick fund transfer	13.14	V
X2-Availability of Financial Services	25.21	I
X3-Security concerns	17.58	II
X5-Range of uses (ex. Bill payments, recharge etc)	8.45	VI
X6-Privacy provided by M-Wallet	15.79	III
X7-Cash back offers	5.36	VII
X9-Wide acceptance of M-Wallet	14.46	IV
Source: Field survey		

Relationship of Demographic factors and Satisfaction level of M-Wallet Services: X^2 Analysis

Ho: There is no significant association between gender, age group, education, occupation, monthly income, place of living of the users and their satisfaction level towards M-Wallet services.

Table - 7: Demographic factors and Satisfaction level of M-Wallet Services

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Variables	χ^2	df	T.V	Result
Gender	0.705^{NS}	1	3.84	Accept Ho
Age group	$.075^{NS}$	1	3.84	Accept Ho
Education	6.318^{NS}	4	9.49	Accept Ho
Occupation	7.538^{NS}	10	18.31	Accept Ho
Monthly income	1.295^{NS}	3	7.82	Accept Ho
Place of living	3.977^*	1	3.84	Reject Ho
** Sig. at 1%; * Sig. at 5%; NS - Not Sig. at 5% level				
Source: Field Survey				

Table – 7 shows that the calculated values of $\chi 2$ between demographic factors except place of living of the users and their satisfaction level of M-Wallet services are lesser than the tabulated values at 5% significant level. Hence, null hypothesis is accepted and it is concluded that there is no significant association towards satisfaction level of M-Wallet services among various gender, age group, education, occupation and monthly income. On the other hand, there exists a significant association towards satisfaction level of M-Wallet services between rural and urban areas because the calculated value $\chi 2$ is greater than the tabulated value at 5% significant level. Therefore, null hypothesis is rejected.

Conclusion

M-Wallet has become a mainstream payment instrument than other digital payment services in India. In order to the growth of the M-Wallet services was noteworthy in post-demonetization period. On monthly average the volume of M-Wallet transactions in India, were nearly 300 million and its business value of Rs. 120 Billion. The M-wallet business market likely to generates 400 million volume of transactions with Rs. 200 Billion in March' 2020. Further, this study reveals that more than half of the users are highly satisfied with services provided by preferred M-Wallet. So, the M-wallet service providers must take important steps to gain their consumers' trust at maximum possible extent by ensuring the safe transactions which helps to improve the satisfaction level of the users.

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