

# DEMONETIZATION AND E-WALLET: IMPACT STUDY IN GUWAHATI CITY

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## ABSTRACT

*Demonetization refers to the act of altering the status of the current legal tender in circulation in a country. It is the act of stripping a currency unit of its status as legal tender. Demonetization is necessary whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit. E-wallet has mainly two components, software and information. Software component stores personal information and provides security and encryption of the data whereas information component is a database of details provided by the user which includes their name, shipping address, payment method, amount to be paid, credit or debit card details, etc. The aim of this paper is to study the impact on the use/usage of E-Wallets on account of the implementation of Demonetization in India in 2016. It is found that there is a significant difference between respondent's usage frequency and the selected services and it is also reflected that the purpose of usage of e-wallets have witnessed a significant change after the implementation of Demonetization. Thus, there is a huge scope for the business houses to increase their work operations so as to attract more number of customers.*

**Keywords:** *Demonetization, E-wallet, Frequency, Impact, Use*

## I. INTRODUCTION

### 1.1 Demonetization

The measure of Demonetization is not a new concept for the world and thus it requires huge support from the people of that nation. Different countries have tried changing their currency in the past.

Demonetization was first used by The French in the years between 1850 -1855. Since then, many countries have used the word and the policy with immense restriction and discomfort, for it disrupts economies and population at large.

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India has its own history of Demonetization. Demonetization can be traced back in the following sequence:

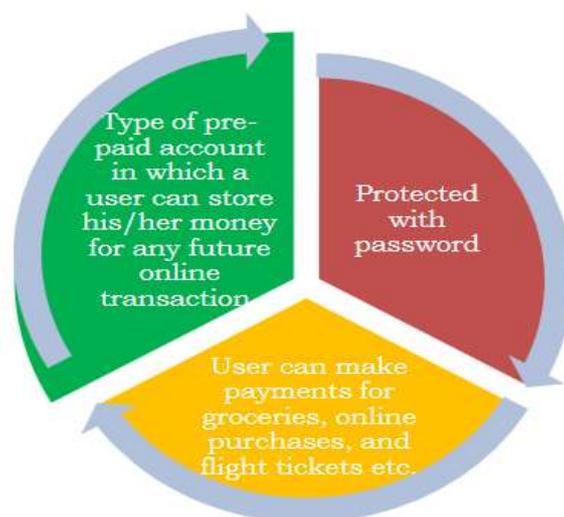
First time on **12<sup>th</sup> Jan 1946 (Saturday)**

Second time on **16<sup>th</sup> Jan 1978 (Monday)**

Third time on **8<sup>th</sup> November, 2016 (Tuesday)**

Demonetization has led to an increase in the number of ATMs, debit cards, rural banks, swipe machines, PoS machines, etc., in the recent years. This has not only contributed to financial inclusion but also less dependence on cash by shifting the economy towards a cashless one.

One of the objectives of Demonetization was ideally undertaken to transform the Indian economy to a cashless economy. E-wallets play an instrumental role in serving the same.



**Figure 1: figure showing features of e-wallet**

### 1.2 E-wallet

E-wallet has mainly two components, software and information. Software component stores personal information and provides security and encryption of the data whereas information component is a database of details provided by the user which includes their name, shipping address, payment method, amount to be paid, credit or debit card details, etc.

There are a number of e-wallets available; few of them are as follows:

**Table 1: E-Wallets & Parent Co.s along with year of establishment**

Name of Parent companies	Name of service (E-Wallet)	Year of Establishment
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<b>Oxigen Services India Pvt. Ltd.,</b>	<b>Oxigen</b>	<b>2004</b>
<b>ITZ Cash card Ltd</b>	<b>ITZ Cash</b>	<b>2005</b>
<b>Kleiner Perkins Caufield &amp; Byers and Sherpalo Ventures</b>	<b>Paymate</b>	<b>2006</b>
<b>One MobikwilSystem Pvt. Ltd.</b>	<b>Mobikwik</b>	<b>2009</b>
<b>One 97 communication</b>	<b>Paytm</b>	<b>2010</b>
<b>Ezetap mobile solution</b>	<b>Ezetap</b>	<b>2011</b>
<b>Mswipe Technologies Pvt Ltd: Private Company Information</b>	<b>MSwipe</b>	<b>2012</b>
<b>SBI</b>	<b>SBI Buddy</b>	<b>2015</b>
<b>HDFC</b>	<b>HDFC Pay Zapp</b>	<b>2015</b>
<b>AXIZ Bank</b>	<b>Lime</b>	<b>2015</b>

Source: <https://www.sumhr.com/digital-wallets-india-list-online-payment-gateway/>

## II.LITERATURE REVIEW

Norway Stavanger (2003) proposed a generalization of the architecture of an electronic wallet, as first developed in the seminal European research project CAFÉ. With this model one can leave most of the content of the electronic wallet at the security of the residential electronic keeper, while roaming with one's favourite mobile terminals. Emerging mobile handsets with both short range Bluetooth and cellular GPRS communication provide a sufficient communication platform for this electronic wallet architecture. However, new security requirements must be addressed, and new threats of attack must be carefully analyzed and met with appropriate security protocols. The proposed approach is fundamentally distinct from the remote wallet proposals, in that it protects important user requirements and takes a multiparty security approach using a fully decentralized architecture. Technically, the user remains in control of the input/output and usage of his credentials, likely carried by smart cards. At the same time, the model provides a solution to the pressing practical problem of the multitude of special-branded cards the user has to carry and sort. Currently used magnetic stripe and chip cards with application such as debit and credit transactions are easily included within the architecture with minor enhancement to these legacy systems and their functionality.

Dr. S. Manikandan and J. Mary Jayakodi cited that in the present world smart phones play an important role in the daily life of people. The technological advancement has made smartphones as devices where the mobile users can make money transaction or payment by using application installed in phone. The present study aims to explain the application and usage of wallet money endorsed by different companies and various factors that affect the consumer's decision to adopt mobile wallet and various risks and challenges faced by the users of mobile wallet.

Poonam Painuly and Shalu Rathi (2016) in their research paper “Mobile wallet :An upcoming mode of business transaction” have analysed that ease of transaction,secured profile and convenience in handling application put forth the benefits of wallet money and also concluded that business sectors like banking ,retail, hospitality etc., are making use of wallet money and mobile payment instruments including contactless and remote payment in the customers –business and customers to customers areas.

Rajesh Krishna Balan, NarayanRamasubhu, Giri Kumar Tayi (2006) in their research paper “Digital wallet: Requirement and challenges” have identified about Singapore’s use of digital wallet and analysed the key challenges in building and deploying a digital wallet.

Dr. Hem Shweta Rathore in her research paper “Adoption of Digital wallet by consumers” have analysed about the factors that influence consumers in adoption of digital wallet and also analysed the risk and challenges faced by consumers in usage of digital wallet and concluded that shoppers are adopting digital wallet largely due to convenience and ease to use and in the future years digital wallet will gain more widespread acceptance.

Upendra Nath Shukla in the paper explores the future of m- wallets in India by accessing the intent of existing debit card users to use m - wallets for cashless payments. Extensive literature review and personal interviews of senior professionals from banking and telecom industries were conducted to find the parameters to explore usage intentions of m - wallets based on adaption readiness and perceived risk for m - wallets. By using discriminant analysis, a model was derived, which suggested that debit card users who were upto 45 years of age had fewer handling problems related to debit cards and were more inclined towards adopting m-wallets post demonetization in India. This information has vital implications for policy makers and service providers while strategizing for cashless payments. The post demonetization environment for cashless payment is conducive for m-wallets in India, opening ample business opportunities for service providers by providing secured and quality day to day cashless payment facility for customers in the future.

### **III.OBJECTIVE OF THE STUDY**

The aim of thispaper is to study the impact on the use/usage of E-Wallets on account of the implementation of Demonetization in India in 2016.

In this context, the impact has been studied keeping the following issues in mind:

- (i) Whether the usage of E-Wallets has increased/decreased Post-Demonetization?
- (ii) Whether the purpose of usage of E-Wallets shows any fluctuations Post-Demonetization?

#### IV.METHODOLOGY

The study is conducted in the geographical area of Guwahati city. The universe of the study consists of the populace residing in the city. Since the population is infinite, the technique of Judgement Sampling is deemed appropriate for conducting the survey. A structured questionnaire was prepared and distributed amongst 50 samples.

In order to meet the specific objective of this paper, data have been collected in the form of frequency of usage in the Pre-Demonetization and Post-Demonetization period as well as the purposes of usage in the same fashion. The frequency of usage has been measured along a qualitative 5 option scale so that Chi-square test can be applied for statistical analysis. The purpose of usage of E-wallets considers a 5 pointer scale, where 1 indicates lowest/decreased usage and 5 indicates highest/increased usage. The responses so collected have been multiplied with the respective points so as to quantify the obtained data and made fit for application of t-test.

#### V.ANALYSIS AND INTERPRETATION

##### 5.1 Frequency of use/usage of E-Wallets

H<sub>0</sub>: There is no significant difference between respondent's frequency of use/usage frequency and the selected services.

H<sub>1</sub>: There is a significant difference between respondent's frequency of use/usage frequency and the selected services.

The above hypothesis is tested at 5% level of significance and the conclusion is cited below:

**Table 2: Frequency of use/usage**

Services	Not at all	Less Frequent	Neutral	Frequent	Very Frequent
Public Utility bill payment services	0(11)	0(11)	10 (28.5)	5 (22.5)	35 (53.5)
Entertainment service	0(11)	17(44)	14 (34)	14 (34)	5(22.5)
Hotel Services	0(11)	0(11)	0 (11)	10 (28.5)	40 (55)
Grocery	0 (11)	0 (11)	9 (24.5)	20 (50)	21 (51)
Apparels	0 (11)	0(11)	0(11)	35 (53.5)	15 (38)
Furniture & Furnishings	0 (11)	0(11)	10(28.5)	15(38)	25 (52)
Legal services	0 (11)	0 (11)	16(41.5)	15(38)	19 (49)
Beauty Parlours	10(28.5)	13 (32)	17 (44)	10(28.5)	0(11)
Transport services	9 (24.5)	15 (38)	10(28.5)	16 (41.5)	0(11)

Educational service	0(11)	17 (44)	18 (47)	15(38)	0 (11)
Other financial services	0 (11)	0 (11)	18 (47)	18 (47)	14 (34)
Sum of ranks	152	235	345.5	419.5	388
Square of Sum of ranks	23104	55225	119370.25	175980.25	150544
H=	17.675				
Chi-square(0.05,4)=	9.488				

Source: Primary data collected through questionnaire

$$H = \left[ \frac{12}{N(N+1)} \times \sum \frac{T^2}{n_g} \right] - 3 \times (N_H) = 17.675$$

$$d.f = 5 - 1 = 4$$

$$X_{0.05,4}^2 = 9.488$$

$$H > 9.488$$

Hence, rejected at 5%

At 5% level of significance with 4 (5-1=4) degrees of freedom the critical value is 9.488 and the calculated value is 17.675 which is greater than the critical value. Hence null hypothesis is rejected and we can conclude that there is a significant difference between respondent's usage frequency and the selected services

## 5.2 Purpose of use/usage of E-Wallets.

H<sub>0</sub>: There is no significant difference in the purpose of use/usage of e-wallets

H<sub>1</sub>: There is a significant difference in the purpose of use/usage of e-wallets

Table 3: Purpose of use/usage

Purpose	Pre-Demonetisation	Post-Demonetisation
Public Utility bill payment services	70	54
Entertainment service	76	103
Hotel Services	92	133

Grocery	46	18
Apparells	104	192
Furnitures and furnishings	83	140
Legal services	72	49
Beauty Parlours	29	53
Transport services	33	84
Educational service	102	208
Other financial services	49	27

Source: Primary data collected through questionnaire

P value and statistical significance:

The two-tailed P value equals 0.0319

By conventional criteria, this difference is considered to be statistically significant.

Confidence interval:

The mean of pre-demonetisation minus post-demonetisation equals -51.09, 95% confidence

Interval of this difference: From -97.29 to -4.89

Intermediate values used in calculations:

$$t = 2.3068$$

$$df = 20$$

$$\text{standard error of difference} = 22.148$$

Group Pre-demonetisation Post-demonetisation

Mean 68.73 119.82

SD 26.31 68.58

SEM 7.93 20.68

N 11 11

From the above test it can be concluded that the purpose of usage of E-wallets have witnessed a significant change after the implementation of Demonetization.

## VI.CONCLUSION

The present study on the impact of demonetization and E-wallet in Guwahati city tries to find out the usage frequency and purpose of use in the pre and post demonetization period. It is found that there is a significant difference between respondent's usage frequency and the selected services and it is also found that the purpose of usage of e-wallets have witnessed a significant change after the implementation of Demonetization. Thus, there is a huge scope for the business houses to increase their work operations so as to attract more number of customers. They can do this by linking their e-wallet service with utility services, shopping sites etc. The companies can also give introductory promotional offers to increase the customer base. The most important factor which the firms should take care of is to maintain their level of service. There are many firms offering the same service with insignificant differences in them. Thus, the competitive advantage should be the survival strategy for the companies.

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