CONSUMER ADOPTION OF MOBILE WALLET: DIGITAL TRANSFORMATION A BOON TO SUSTAINABLE ENVIRONMENT

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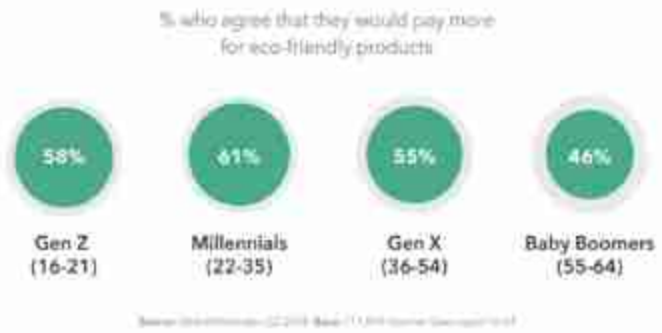
Abstract:
Digital transformation emerged as a key driver for a more resilient and sustainable future. In our fast-urbanizing economy, digital payments can make cities more liveable. Mobile wallet as one of the digital payments is changing the payment methodology. This paper presents the current trend in the impact of adoption of mobile wallet in averting the environmental hazards faced by the society and to understand that sustainability can be considered as the adoption factor of mobile wallet. The research model has been developed to understand the adoption of mobile wallet as a key in averting the environmental hazards such as climate change, urban congestion, pollution etc. This paper seeks to understand that sustainability can be considered as a leading factor to the switching of customers from cash to mobile wallet .This paper further reveals the way mobile wallet is transforming the cash and card dominated economy to cashless, card-less and sustainable economy.

Keywords: Digital payment, sustainable, mobile wallet, environmental hazards

Introduction:

Digital transformation has become the necessary reality of the present world. However, this phenomenon should be viewed through the lens of sustainability. The relationship between sustainability and digital transformation is complementary to each other. According to the World Economic Forum, *2030 Sustainable Development Goals* (SDG), underlines that how we can harness the power of technology to facilitate sustainable environment. Digital payments are one of such technology that can offer sustainable future.

Sustainability is now the significant purchase criterion. According to the recent study, more than one third of the global consumers are ready to pay more for the sustainable product especially the Gen Z and the Millennials . Globally, around 85 percent of consumers reveal that they have shifted their purchase behaviour towards being more sustainable.



Source: Globalweb Index

Today the customers prefer product which are sustainable due to the alarming environmental hazards like global warming, climate change, loss of bio diversity, pollution etc. Moving towards the sustainability is a need of an hour. Sustainability takes into consideration People and Planet in to the primary focus. Digital payments are the means towards sustainability as mobile wallet replaces paper money and coins that offers benefit that go well beyond consumer convenience. There is plethora of advantages of cashless technology of mobile wallet to avert environmental hazards such as climate change, urban congestion, pollution etc.

Consumers today have access to a wider amount of information than ever before. They know exactly what they want and how to get it. The customers aren't just making decisions based on a product or price anymore as they are closely looking into sustainability of the product.

This paper seeks to understand that sustainability can be considered as a factor in the switching of customers from cash to mobile wallet. This paper also focuses on the way the mobile wallet is transforming the cash and card dominated economy to cashless, card-less and sustainable economy.

Literature review

Steffen et al. (2018) concluded that the foremost challenge facing humanity is the three-pronged overshooting of planetary boundaries beyond which sustaining life becomes difficult, which is global warming due to carbon-intensive industrialization, overconsumption of nitrogen, and biodiversity loss. Bonan, G. B., Doney, S. C. (2018). concluded that companies have been considered responsible for multiple challenges of the society which are social, environmental, and economic in nature. Hoffman (2018) concluded that the major majority of CEOs elaborated that achieving business sustainability is of high priority for them. The focus has been on developing and marketing sustainable products and services that makes society a liveable place. Moreover, citizens are becoming more responsible and aware of the impacts coming from the consumption of the various services and goods. By focusing on social, environmental, and economic challenges can create value for stakeholders in a society.

Menrill (2019) concluded that the convergence of the sustainability and digital imperatives is beginning to gain momentum in the business. The digital payments are providing solution to tackle environmental hazards like city congestion and can save energy.

Digital transformation is the use of new digital technologies to enable major business improvements in operations and markets as well as for the society. The digital transformation as a process that considers the present and future of how digital technologies influence business models towards the people and planet . Digital technologies and digital capabilities create value by stimulating business models and on the flip, side influence the purchase behaviour of the consumers.

Objectives:

1. To understand that sustainability is an adoption factor of mobile wallet among gender.
2. To identify the role of mobile wallet in creating sustainable environment.

Hypothesis:

HO There is no significant difference between sustainability and adoption of mobile wallet among gender.

H1 There is significant difference between sustainability and adoption of mobile wallet among gender.

HO There is no positive influence of mobile wallet in creating sustainable environment.

H2 There is a positive influence of mobile wallet in creating sustainable environment.

Conceptual framework model

Along with demonetization, the other two major contributors to the rise in adoption of mobile wallet were penetration of smart phones and high internet speed. After reviewing existing literature, researcher is of opinion that there could be many new variables that should be considered to get clear picture regarding adoption of mobile wallet. As per the present scenario, sustainability can be one of the factors in the adoption of mobile wallet.

Based on the literature review, researcher has identified the following ways by which mobile wallet can transform the cash and card dominated economy to cashless, card-less and sustainable economy.

Conservation of Trees

In order to print paper notes, it is found that almost half of the fibre used comes from wood that has been purposely harvested and the rest comes from wood fibre from sawmills, recycled newspaper etc .Wood requirement for paper-notes is hindering our revolution of going greener and sustainable life. Digital payments such as mobile wallet payments are a solution to the cutting of trees to make paper notes

Reduce Congestion in cities

Mobile wallets can also even help cities connect all its various means of transportation like buses, trains, metros etc. It also connects tolls, bridges, parking and electric vehicle charging points. Mobile wallet payments can even give cities the information which they need to meet the increasing demand for public transportation, and hence reduce congestion.

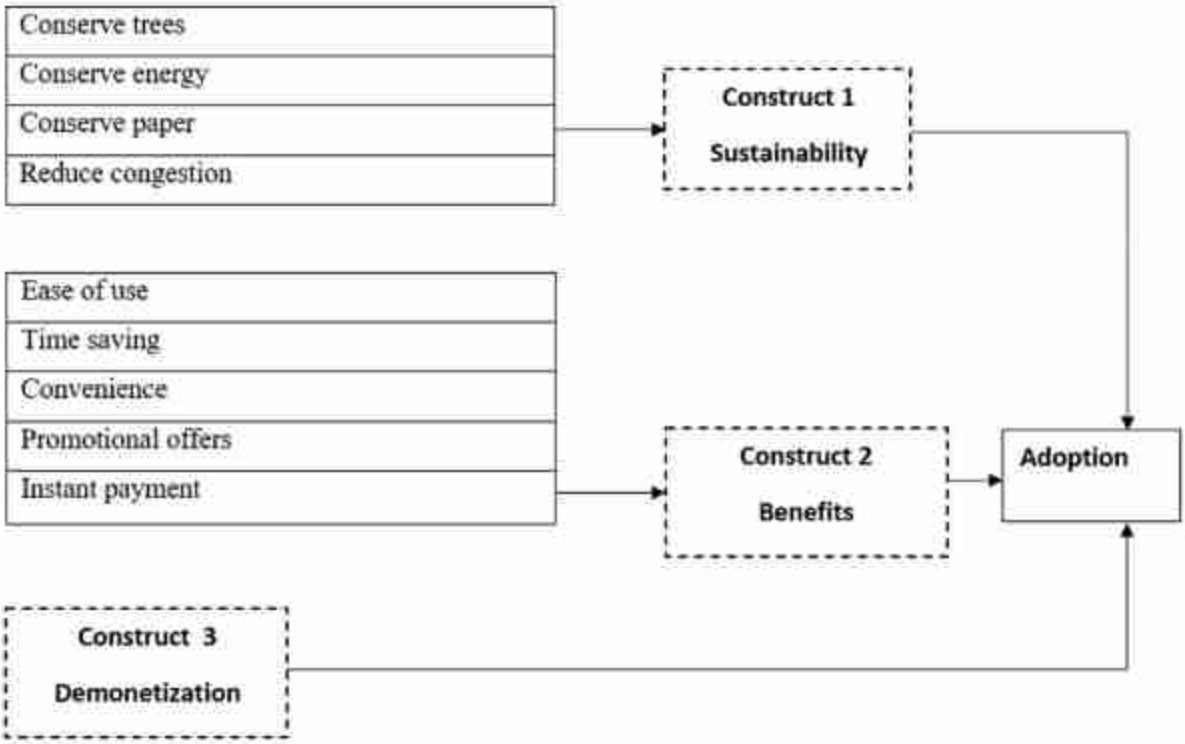
Energy Conservation

Adoption of mobile wallet can further help in the energy saving as ATMs consumes lot of energy to run 24 hrs and make available cash but mobile wallet in usage by consumers can save this energy which is being consumed by the ATMs.

Conserve Paper

The adoption of mobile wallet can save the printing of receipts which customer get after making payment in cash as by making payments through mobile wallet, the customer gets the digital receipt.

Research Model



ESEARCH METHODOLOGY

Data collection

Primary Data: Data has been collected from 123 respondents by using the Convenience Random sampling method using Google form

Secondary Data: The secondary data has been collected from research articles, journals, etc.

Research Design: The present study is analytical and descriptive in nature.

Sampling Plan:

1. Sample Unit: Mobile wallet users from Pune.
2. Sample Size: 123 respondents.
3. Sampling Selection: Convenience Random sampling
4. Sampling Instrument: Structured Questionnaire (Google form)
5. Sampling statistical Tools: Z test and Percentage Analysis using Python and Machine learning.

Primary Data Analysis

In this section , analysis is used to get meaningful information on the data collected from the mobile wallet users. The primary data analysis is divided into two sections. In the first section profile analysis of the mobile wallet users is done and in the second section the statistical analysis is done. The reliability of the data collected from the 123 respondents was tested using Alpha Cronbach's reliability analysis. Later, objectives are analysed using U test , percentage by Python and machine learning.

Reliability Analysis

The responses of the respondents are entered in the MS excel and then transferred to software for statistical analysis. In order to check the reliability of the data Alpha Cronbach's reliability analysis is performed by Python and machine learning.

Analysis of Alpha Cronbach's reliability analysis

Variables	Alpha Cronbach's reliability analysis
Sustainability	0.987
Benefits	0.954
Demonetization	0.965

The above table shows that Alpha Cronbach's reliability analysis, as any reliability score above 0.6 can be accepted and any value which is equal or above 0.9 is considered to be excellent reliability score for data collected.

Profile Analysis

In this section profile of the respondents has been conducted. For this, respondents are classified on the basis of various characteristics such as gender, age and occupation. The table shows the profile of the respondents with respect to the gender, age and occupation. This will give the detailed profile of the respondents.

Characteristics	Categories	No. of respondents	Percentage
Gender	Male	63	51.3
	Female	60	48.7
	Total	123	100
Age	17-24	45	36.7
	25-32	37	30.1
	33-40	28	22.7
	Above 40	13	10.6
	Total	123	100
Occupation	Students	35	28.4
	Business	38	30.8
	Salaried	43	34.9
	Non-working	7	5.9
	Total	123	100

The above table, clearly shows the general profile of the respondents. From the data it can be observed that Male respondents are 51.3 % and female respondents are 48.7%.

Regarding the age of the respondents, the table shows that 45 (36.7%) are of age group 17 to 24 years. Age group 25 to 32 years consist of 37 (30.1%) . Whereas the age group 33 to 40 years is 28 (22.7%) and above 40 years is 13 (10.6%).

With respect to occupation, the table shows that 35 (28.4%) are students, 38 (30.8%) are from business. Whereas 43 (34.9%) are salaried and 7 (3.9%) are non-working.

Statistical analysis

This section deals with the analysis of the factors identified for the study through the primary data collected from the respondents. As the primary data shows excellent reliability and the data is not normally distributed so the non parametric test that is U test is conducted through Python and machine learning.

Comparison between Male and Female Through Mann Whitney U test on Sustainability

Sustainability	Gender	Descriptive statistics		Mann Whitney U test		
		N	Mean ≠ S .E	Mean rank	U	Sig
Conserve trees	Male	63	3.57 ≠.084	226.53	24456	.043
	Female	60	3.37 ≠ .094	243.78		
Conserve energy	Male	63	3.76 ≠ .085	243.23	24709.56	.044
	Female	60	3.54 ≠ .076	228.32		
Reduce congestion	Male	63	3.57 ≠ .082	234.76	24954	.049
	Female	60	3.73 ≠ .094	244.45		

From the above table, it can be seen that the male mean score is 3.57 and the female mean score is 3.37 for 'Conserve trees'. The Mann Whitney U test is conducted at 5% to see whether the difference is significant or not. Here the p value= .043 < .05 is statistically significant. So, it can be concluded that conserve trees are a factor of adoption and have the more influence on male than female.The male mean score is 3.76 and the female mean score is 3.54 for 'Conserve energy'. The Mann Whitney U test is conducted at 5% to see whether the difference is significant or not. Here the p value= .044 <.05 is statistically significant. So, it can be concluded that conserve energy is a factor of adoption and have the different influence on male and female.

The male mean score is 3.57 and the female mean score is 3.73 for 'Reduce congestion'. The Mann Whitney U test is conducted at 5% to see whether the difference is significant or not. The p value= .049 < .05 is statistically significant. So, it can be concluded that reduce congestion is a factor of adoption and have the different influence on male and female in the adoption of mobile wallet.

Comparison between Male and Female Through Mann Whitney U test on benefits

Benefits	Gender	Descriptive statistics		Mann Whitney U test		
		N	Mean ≠ S .E	Mean rank	U	Sig
Ease of use	Male	63	3.32 ≠ .074	223.34	24306.54	.035
	Female	60	3.54≠.087	254.08		
Time saving	Male	63	3.12≠.072	234.45	26174	.423
	Female	60	3.19≠.081	244.64		
Convenience	Male	63	3.36 ≠ .081	234.55	2666.3	.643

Female	60	3.46≠.087	255.65

The male mean score is 3.32 and the female mean score is 3.54 for 'Ease of use'. The Mann Whitney U test is conducted at 5% to see whether the difference is significant or not. Here the p value= .035 > .05 is statistically significant. So, it can be concluded that ease of use is a factor of adoption and have the more influence on female than male in the adoption of mobile wallet.

The male mean score is 3.12 and the female mean score is 3.19 for 'Time Saving'. The male mean score is 3.36 and the female mean score is 3.46 for 'Convenience'. The Mann Whitney U test is conducted at 5% to see whether the difference is significant or not. Here the p value= .423 > .05 is statistically insignificant. So, it can be concluded that time saving and convenience is a factor of adoption and have the same influence on male and female

Comparison between Male and Female Through Mann Whitney U test on demonetization

Demonetization	Gender	Descriptive statistics		Mann Whitney U test		
		N	Mean ≠ S .E	Mean rank	U	Sig
		63	3.47 ≠.081	267.55	2678.3	.649
	Females	60	3.58≠.089	265.69		

The p value= .649 > .05 is statistically insignificant. So, it can be concluded that demonetization is a factor of adoption and have the same influence on male and female in adoption of mobile wallet.

The above analysis shows that there is a significant difference between sustainability and adoption of mobile wallet among gender So the alternate hypothesis is accepted and null hypothesis is rejected. And there is a positive influence of adoption of mobile wallet and sustainable environment.

Conclusion

The researcher can conclude from the analysis that male and female both are considering sustainability an aspect and can consider sustainability as a main factor in the adoption of mobile wallet apart from the benefits, demonetization, smart phone penetration and high-speed internet. There is very few research which focus on relationship between mobile wallet and the sustainable environment. This study throws light on that sustainability can be considered as a factor in the switching of customers from cash to mobile wallet. Even there is plethora of advantages of cashless technology of mobile wallet to avert environmental hazards such as climate change, urban congestion, pollution etc. Thus, we can conclude that the mobile wallet is transforming the cash and card dominated economy to cashless, card-less and sustainable economy.

Limitation of the study

1. This study is restricted to the mobile wallet users who reside in Pune only.
2. The number of mobile wallet users taken for this study may show a very small sample out of the whole population. Therefore, the results may or may not apply to all other customers.

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