DRIVERS OF DEMAND FOR DIGITAL PAYMENT SERVICES IN INDIA - PROBLEMS OR BENEFITS

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ABSTRACT

Evolution of payments via cash then cheque then with plain vanilla digital products like plastic cards have to now look upon the payment Application Programming Interfaces (APIs,) as the next generation technology, mobile as the ubiquitous mode, contact less cards, NFC, digital currency. This paper attempts to identify the key determinant of demand for digital financial services using TAM model. It aims to assess the knowledge of people regarding various digital payment modes and find out the preferred means of payments method – Cash, Cards, Mobile APP, Internet based fund transfers. It also compares if knowledge (financial literacy) or price (Benefits), are the key driving force for digital payments. The study found significant effect of Ease of usage on adoption of digital payment services.

INTRODUCTION

A country's economic development relies heavily on its robust financial system. Countries are ranked between developing and developed based on their ability to raise their GDP, create jobs, attract investments etc. which combines into their global competitiveness. Financial inclusion helps in broader access and increase in participants in financial system thereby helping in reducing income inequalities, creating work opportunities, better investment and consumption of income. Electronic Fund Transfer (EFT) refers to the application of computer and telecommunication technology in making or processing payments. The term itself is not a product it is a descriptor that defines payment vehicles which use electronic networks instead of cash or checks to conduct a transaction.

The term covers a number of different payment systems, such as:

a) Cardholder-initiated transactions, using a payment card such as a credit or debit card.
b) Direct deposit payment initiated by the payer.
c) Direct debit payments for which a business debits the consumer's bank accounts for payment for goods or services.
d) Wire transfer via an international banking network such as SWIFT.
e) Electronic bill payment in online banking, which may be delivered by EFT or paper check.
f) Transactions involving stored value of electronic money, possibly in a private currency.

The changes in monetary evolution represent the changes in the form of how transfer of funds from one account to other are authorized. Various evolutions in transfer mode authorization are focusing on reduction of cost and time. Digital payment methods help in increasing financial inclusion and drastically reduce cost, time and energy over cash transactions. Indian Government is trying all pull and push techniques for digitalizing monetary transactions and moving India towards a cashless economy. Demonetization created cash crunch and forced people towards digital transactions modes similarly waiving service charges on card transactions discount over IRCTC for internet ticket bookings etc. were pull techniques to attract digital means of transactions but as demonetization phase got over people again started moving towards cash transactions over digital transactions. Therefore, it requires a clear understanding of what determines the demand of digital means of financial services so that we can have sustained shift from cash to digital modes of payments.

Evolution of payments via cash then cheque then with plain vanilla digital products like plastic cards have to now look upon the payment Application Programming Interfaces (APIs,)as the next generation technology, mobile as the ubiquitous mode, contact less cards, NFC, digital currency, the digital ecosystem is rapidly changing worldwide .

Indian payment sector is largely divided into:

1) Large value payment system

   Most of the countries, worldwide use RTGS for the same which is highly secure and manages most of the systematic risk in the same

2) Retails payment system

   This is the area where the largest difference continues to exist between higher income and lower income countries, between developed to developing region, even after one or more cashless payment method, difference in volumes and value of transaction handled is large

3) International remittances and other cross border payments

   International money transfer operators are the most important remittance service providers but due to high cost, legal formalities, less privacy and delay in completing the transaction the other alternatives like mobile phone providers, digital currencies have come up as alternatives.

The world bank survey conducted in the year 2012, revealed that EU or developed country individual performs 100 or more cashless transaction per year whereas developing countries have less than 13 and even 1 in few countries, which explains the grave situation and necessity of understanding the determinants to push demand for digital transactions in India.

This situation may be explained by, the following factors:

a) The slow development of access channels to initiate and deliver cashless payments – e.g., point of sale (POS) terminals in many developing countries, coupled with limited interoperability of the infrastructure already deployed;

b) Limited access by individuals to modern payment instruments in most developing countries, especially outside urban areas;

c) Limited competition among banking institutions and, where available, between banks and other payment services providers, typically resulting in higher costs and more limited coverage of these services;

d) The specific needs of the government as one of the major originators and receivers of payments in the economy, and/or these same needs of utilities and other large commercial firms not being adequately addressed by those in charge of reforming the national payments system, resulting in a preference for cash transactions.

e) Risk management in cheque systems and automated clearing houses (ACHs) is still weak. ACHs are a key tool to facilitate commercial as well as person-to-person payment transactions, and as such have a significant impact in the overall efficiency of the national payments system.

Indian government is currently focusing on the mobile payment methods in retail payment sector. M-Commerce market in India is at nascent stage. As smartphone sales continue their journey by 51% every three months, the mobile commerce (m-comm) market may grow by 55% from its present size of $2 billion to $19 billion by 2019Paytm, Free recharge and Mobikwik are few mobile wallet and recharge app available in India

Due to its ubiquitous nature, mobile payment is a leg ahead of online commerce. Mobile phones offer a sense of privacy and security with easy usability also the mobile phone number is unique for every person making it additionally secure to transact from the same but at the same time we have lot of challenges ahead.

The ASSOCHAM and Deloitte report 'Mobile Payments in India New frontiers of growth' April 2011 identifies the critical factors viz. mass reach, security, service provider agnostic, ease and convenience of operation, leverage on existing infrastructure and competitive pricing as critical factors for the success of mobile payments in India.

Regulations in India permit mobile transactions only if they are linked to a registered bank account, through which transactions take place. While it is a well-intentioned regulation to protect clients, this excludes the 40% unbanked population and may also be a deterrent for those uncomfortable with the banking system. Internet and technology penetration isas low as11.4 % of total population. Across India we don't have more than 30000 merchants whereas US single payment getaway authorizes net power of more than 2.1 million merchants.

Country's Infrastructure - Apps and getaways should be better designed up to Global Standard Regulation which makes two factor authentications mandatory for all digital transaction but this may reduce the success rate and hurt customer expectations.

As per the RBI vision document 2012 – 2015 India is working on building its infrastructure, technology to optimize the cost in electronic transactions e.g., Rupay Card etc. and also harnessing its potential of

Mobile Phones as ubiquitous, secured, personalized, privacy-oriented tool came with IMPS for online mobile banking.

For further development and to match the global standards of retail payment systems and international transfers, nation is working on adoption of various technologies like

a) Contactless Payment Cards, Proximity Payments and Other Devices
b) Biometrics for Payment Initiation and Authentication like finger sensors
c) Emerging Network Technologies like NFC etc.

LITERATURE REVIEW

There are various studies which discusses the importance of digital payment modes as a part of financial inclusion initiatives in the lower pyramid of population and specifically mobile payments mode for the growth and development of economy(Jayamaha, 2015). As per RBI vision document 2016 it aims to bring down paper-based transactions, increase usage of digital digitization of toll collections on a PAN-India basis and ensure interoperable payment mechanisms for mass transit systems, they are also working on cash-less transactions in all government departments (Ministry of Electronics and Information Technology (MeitY), 2016). The JAM trinity - Aadhaar, PMJDY account and mobile telephony are government three measures to effectively move Indian economy from cash to digital. Indian progress has been slower as a result of adopting a broader perspective on financial inclusion and pursuing multiple initiatives simultaneously unlike the other country's digitalization models like - No frill banking – South African model, Business Correspondent – Brazil model, Mobile banking (M Pesa) – Kenya model which were specific in their target approach (Winn, Rothchild 2015)

The demand for digital payment system is a derived demand from the demand of financial services in Indian sector so it is necessary to understand the determinants for demand of financial services. It is by and large understood that financial literacy helps in augmenting the demand of financial services (kumar, 2010) therefore government is taking various measures to increase awareness and digital knowledge among people. They have organized numerous training programs, workshops, camps to impart digital financial knowledge among people but as per the working paper of Harvard Shawn et al. (2010) it suggests that though there is a strong correlation between financial literacy and demand behavior. However, education program has modest effect, on increasing demand of bank account on the contrary small subsidies greatly increases demand. A cost and benefit analysis of subsidies (benefits) and literacy program (knowledge sharing) on increasing demand of financial services goes in favor of benefits and it fails to support the view that low financial literacy is a severe impediment to demand for formal financial services. It is based on the study conducted in India and Indonesia and a follow up survey was also done after two years which also suggested the same.

OBJECTIVES

1) To assess the knowledge of people regarding various digital payment modes.
2) To find out the preferred means of payments method – Cash, Cards, Mobile APP, Internet based fund transfers.
3) To find the key determinant of demand for digital financial services.
4) To find out if knowledge (financial literacy) or price (Benefits), are the key driving force for digital payments.

RESEARCH METHODOLOGY

The Study: The study was exploratory in nature with survey being the mode for data collection.

Sample Design: Population includes individuals in Gwalior region with a total sample size of 60 respondents in the age group of 25 to 50 years. Purposive sampling was used to identify the individual respondents.

Tools for Data Collection: Self-designed questionnaire using Likert-type statements were used to elicit responses from the respondents on a range of 1 to 5, where 1 indicated minimum agreement and 5 indicate maximum agreement.

The **tools used for Data Analysis** was the reliability, through Cronbach alpha method and Factor analysis was applied using SPSS 20.0 software to identify the underlying factors.

Results and Discussion

The analysis of the questionnaire revealed that 87% people were having knowledge of various digital payment modes, thus lack of knowledge about it is not a roadblock for adoption of digital payment system.

Reliability

Reliability test was carried out using SPSS 20.0 software and reliability of the items was calculated using Cronbach's Alpha which was found to be 0.619 which means that our measure is reliable.

Reliability Statistics

Cronbach's Alpha	No. of Items
.619	10

Validity: Face validity was tested and found to be high.

Factor Analysis

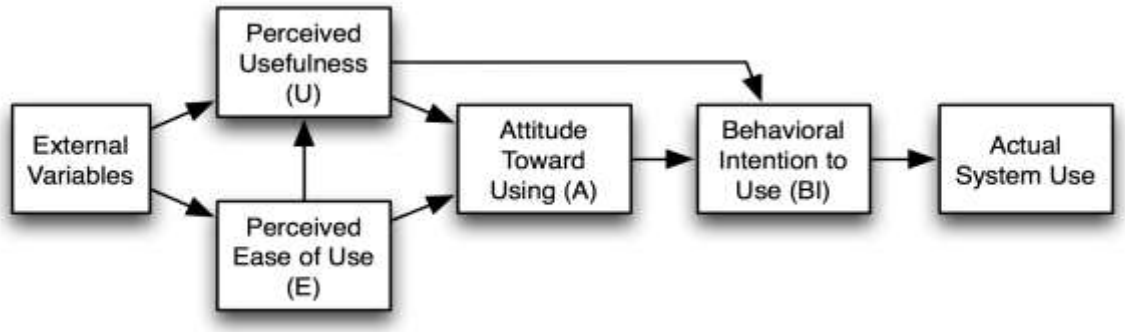
The raw scores of 13 items were subjected to factor analysis and after analysis 3 factors were identified.

Factor name	Eigen Value
Perceived Ease of use	2.974
Price of usage of technology	1.647
Perceived Usefulness	1.220

Description of Factors

1) Perceived Ease of use – This factor has emerged as the most vital factor affecting the perception and attitude towards adoption of technology with a total variance of 2.974. It is composed of several items such as individual preference of card over cash, adoption of new technology soon after its launching, competency of addressing high-tech products & services if they are user friendly, payment preference by mobile apps over cards.
2) Price attached with usage of Technology – This factor has emerged as one of the important factors related to acceptance of new technology with a total variance of 1.647. It is composed of items such as customer's preference of apps & cards payments due to the discounts attached to it and preference of basic products over high end complicated products
3) Perceived usefulness – This factor has emerged as an important determinant of customer preference of digital payments modes with a total variance of 1.220. It is composed of items such as products & services offered with newest technology make product more convenient and useful, Technology makes people more efficient in their occupation and call center assistance are not very helpful as difficult to understand.

The studies related to find various determinanats driving the demand for digital payment system revolves around application of Technology Acceptance Model (TAM) model and extended modified versions of the same . The TAM model is as followes:-



The Technology Acceptance Model, version 1. (Davis, Bagozzi&Warshaw 1989)

The external variable which plays an important role apart from perceived ease of use and perceived usefulness is - price which customer pays for the usage of technology and so various discounts offered on usage of digital transactions e.g. reduction in IRCTC internet service charge, discounts over making payments from cards, mobile app usage benefits play a vital role.

As per the analysis it is found that TAM model of technology for acceptance among people with another factor named price for usage of technology plays a vital role, so our key determinants which came out of the factor analysis is perceived ease of use, price of usage of technology and third is perceived usefulness whereas literacy or financial knowledge didn't came out as a relevant determinant in the study which also goes in line with the working paper of Harvard (Shawn, Thomas, Bilal 2010) suggesting on price of usage of technology as key factor and stated literacy a less important determinant.

CONCLUSION

It is concluded from the above analysis that financial knowledge is not an obstruction in the demand of a new technology as 87% of our population has knowledge of digital financial products. Acceptance of any new technology and its intention to use depends on the perception of people about its ease of use which means that technology should be user friendly which people can use on their own , effortless and doesn't require assistance then what bothers people most is the price they are paying to use the technology ,since smart phones have become the need of today's world and Indian government is working harder to make digital payment modes lucrative option to use by launching variety of mobile apps like BHIM , UPI etc. , reducing data charges then by offering discounts on payment of bills etc. over app and card instead of cash , coming over to a payment bank model etc. then perceived usefulness making a technology useful in their job performance i.e. usage of digital payment modes of payment reduces the risk of carrying cash and its security and transferring money to people are quick and secured

The limitation of the study can be the population of Gwalior in the specified age group which is urban and the results can vary when a rural population is studied

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