To Study the Digital India Campaign and Digital Payments System in India

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Abstract: This paper presents a to study the digital India campaign and digital payments system in India.

Keywords: Digital India Campaign, Digital Payments System

1. Digital India Campaign and Digital Payments

Government these days is making all efforts to make India a cashless economy by taking huge steps towards making every transaction Digital. Digital India campaign was the blessing of our Prime Minister of India Narendra Modi as on 1 July 2015 with an aim of improving digital literacy.

The aim of the campaign is to bring a shift in the economy from a cash based economy to a cashless.

A. Types of digital payments

In 2004, Real Time Gross Settlement was launched to transfer large funds that have a value greater than rupees 2 lakh from one bank to another with no waiting period, or effect of any other transaction.

In 2010, The Immediate Payment Service (IMPS) was open for immediate transfer of funds between the two bank accounts.

Prepaid Payment Systems (PPI) was publicized to purchase goods and services using stored value in instruments like cards, mobile wallets, internet accounts etc.

Mobile Banking came in picture in 2008 when the RBI laid down various guidelines regarding its use by the banks.

Debits cards are used in making the transaction through Automated Teller Machine and Point of Sale Terminals

Credit Card the card is an instrument which are distributed by a financial institute with the purpose of doing online payments with no cash use.

E-wallet are a type of electronic payment instrument that uses the financial data of its user and help them to make online payments.

The Unified Payments Interface (UPI) was introduced to enable doing the transaction using a virtual address or mobile number of the merchant/consumer with no filling of the bank account details.

2. Relevance and scope of the topic

Emerging nations such as India, that still struggle to get the status of developed nations are moving along together to take globalization to the next level along with making every single business more efficient and more profitable. In this fast changing world where everybody, from a salaried person to a business person, is in competition with each other to get the money they always search for an easy way out to make transaction and this is where the internet banking comes in picture. Internet banking has abridged the whole process of making transaction from one account to another of any bank while sitting in your comfort zone, anywhere and the only thing you require is Internet, other than having a bank account in a bank which is offering the internet banking service.

Government is putting in all efforts to make India a cashless economy by taking more and more steps towards making every transaction Digital. Government has even introduced a mobile application BHIM to encourage people to do banking online and make their transactions through the help of internet without going to the bank manually and make every process efficient

Specific focus was about how does this decision of opting for internet banking changes when a person steps into graduation from school and are males more likely to opt for internet banking as compared to females or not.

This study employs the data from a primary survey specifically from those people who use internet banking through the help of Google form. Total number of independent variables taken into consideration was 28 and these variables were related to factors like Perceived ease of use, Banking relation, Government’s role, Risk factor, Reliability and Trust factor.

The process in which internet and electronic gadgets such as laptops, personal computers, mobile phones, etc are used as a medium to facilitate banking services is termed as internet banking. Internet banking is a web-based service which enables all the banks authorized customers to access information about their account and other financial product that they may have opted for with the bank

Looking at the internet banking system through the perspective of products and services being offered by banks through the platform of the Internet, it is nothing more than traditional banking services delivered through the help of an electronic communication backbone, viz., Internet.

Internet connection is the basic necessity to access the internet banking service. Technology advancement is leading the way towards cheaper internet facilities. Companies like Reliance Jio is disrupting the market by providing internet
connectivity at lower rates and tapping the market share from incumbent telecom operators and people in rural areas as well who never had internet connection due to high rates.

The digital wave in India the people opting for internet banking have been on the rise and are doubling every year. The citizen is evolving and changing continuously over the years and are demanding more internet services and facilities.

3. Literature review

Rakesh & Ramya T J (2015), “It is Study on Factors taken up by consumers that Influence the use Internet Banking in India”

Objective: To analyse the factors that effects the decision of people while adopting internet banking.

Method: the method of Partial least square method was used in order to prove to that internet services are affected by reliability and trust the study showed positive results . also the campaign was also launched to check its reliability and benefits it showed that the awareness places an important role in the better customer satisfaction


Objective: This paper takes about the Customer satisfaction in internet banking provided by the banks
Method: The term Customer satisfaction was well-defined in this study as a measure of how the different services offered by the banks are satisfying the customers

The satisfaction of the customer was measured by the number of customers who showed that their experience with the bank was satisfying.


Objective: This study dedicated on the perceptual differences which customers have among internet banking services obtainable by private and public sector banks.

Method: This paper talked about the overview of liberalization policy and RBI’s easy norms which has covered the way for several private and foreign banks which has arrived in Indian banking sector and are facing cut throat competition to each other for obtaining large customer base and market share.

This study showed that the bank was considerate about the deals that they give to their customers to keep them satisfied as if the customers where not satisfied they would opt out of the internet banking facility also affecting the overall banking of the country and in turn the economy gets affected. Also with many offers being offered by various banks this led to the each bank competing with other banks to retain their customer base.


Objective: this helped in seeing the different factors that may affect the customer while opting for internet banking service.

Method: the data was collected by the customers through a questionnaire this was prepared by seeing many different research being done before on similar basis and also many top people were being consulted to prepare this questionnaire

The data that was collected was processed using the SPSS19.0 software. Results showed that the perceived value, ease of use, convenience, risk all had a major role to play in the process of customer satisfaction while using the internet banking


Objective: the internet banking technology valuation was done on the basis of various features and quality check to take strategic decisions while using technology in internet banking.

Method: the method used was to check the technology interface that was used by the end users of internet banking this study was implemented using the exploratory factor analysis. Modelling equations were used to check if technology effects the decision of the end users to opt for internet banking


Objective: The study aims to see the factors which will lead to the increase or decrease of the implementation process of internet banking

Method: the study was implemented using a case study. There were five case studies that were used in this. the bank that had provided internet banking to the customers were used way more than the ones that did not offer internet banking to the customers. It also depicted that there are certain variables that affect the decision of the customers and these were the technology innovations.

4. Objectives and hypothesis

The research objectives for this study are:

- To study the concept of digital India campaign in India and to know the scope of opportunities and struggle and challenges in applying this project.
- Determine factors which affects an internet user’s decision to opt for digital payments.
- To see if government initiative has an impact on the digital payments using primary data.

A. Hypothesis

- Hypothesis 1
  Digital India campaign led to increase in digital payments.

- Hypothesis 2
  Occupation has a positive impact on the usage of electronic payments.

- Hypothesis 3
  Electronic payments will follow an increasing trend in the coming years.

- Hypothesis 4
  Risk has a negative impact on the usage of internet banking.
5. Opportunities of digital India campaign

For the department of telecommunication, the broadband highways are being laid down in gram panchayats to cover internet broadband over 100000 each in the first year while it will go up to 50000 in the coming years.

There is the launch of national rural internet development mission for serving the gram panchayats with the facility of internet access to make work easy and deliverable.

Mobile connectivity is also improved in the rural areas more pillars are being laid down to help the villagers for better connectivity.

There is introduction of e governance in the government domain as we see with this implementation there will be better tracking process better communication process between the departments also there can be linkage to different identity cards, incorporations and different platforms for simplification of tasks.

With the hype in technology there is use of technology in different areas like agricultural usage, health department, military usage, education department, security department. Different departments have different utility of technology like in the agricultural department technology can be used for pricing of crops, information and learning about the different crops market information, the farmers can be given the appropriate compensation that can be verified also in school the Wi-Fi enabled so as to have better access to technology.

The information should be easily accessible to each and every citizen with the help of technology there are platforms that give access to the citizen to know the various vital information that they want to seek from the government these portals are freely accessible and are made available to the general public to keep them up to date with the performance of the government and their future goals and implemented policies.

Technology helps the government to keep in touch with their citizen easily and to also know more about their problems and to make them aware about the various schemes that government have implemented for their well-being.

Technology helps us in the creation of different jobs in the society many jobs that were never present before are coming in demand with the boom in technology like with the access of internet in rural areas there is an increasing demand of many white collar jobs in the rural areas.

The government has also been able to keep a close check on all the departments and all administration even in the area which were earlier difficult to connect with are now being able to be easily monitored by the government.

With the help of technology, the government is able to have mass communication among the different departments it has across its administration, with mass communication everyone can be kept in loop to help in the administration process also we see that the government can fasten the process of implementing policies as everyone is connected closely with the help of technology.

6. Challenges faced by digital India campaign

As we see that the digital literacy is booming but with this there are certain challenges being faced in the implementation of digital India campaign and to take up the technology.

Implementing and spreading awareness as well as to give the benefits to the people associated with this campaign is a difficult task.

Connecting and laying down the internet in some villages is a tedious job as there is also not availability of electricity in some villages internet is seen as a luxury to such villages were the basic amenities are not fulfilled.

The spread of the internet being provided is also affected from region to region there is a need of a different set of optic fibre that needs to be laid down to increase the speed.

Also with the provision of internet many different other services also need to be provided to the rural people which are very important like the delivery of products being ordered online using internet in rural areas.

We can see that there is slow development taking place in the rural areas when it comes to the laying of internet in this area as there are many problems that arrive in each step and to tackle with them it takes a lot of time.

There is a wide gap that has arisen between the rural and urban areas in India we need to carefully spend our costs on infrastructure development in the rural parts of the country.

7. Factors affecting the use of digital payment system in India

With the help of primary data survey we were able to figure out the factors that led to use of digital payments system in India

**Demographics**
- Gender (male/female)
- Age group (18-25, 26-35, 36-45, 46-60 or over 60)
- Occupation

From the data collected from primary research done we can say that the following factors affect positively the use of digital payments
- Gender
- Employment
- Age
- Policy made by government

All those factors which affect negatively the adoption of internet banking are mentioned below:
- Perceived risk factor
- Role of Government
- Convenience in internet banking

8. METHODOLOGY AND DATA SOURCES

A. Methodology

This project aims to examine the factors like internet security, Government role, risk factor of using internet banking, improvement in security of internet usage, Gender, Occupation and age has with the decision to opt for digital payments.
Primary data will be used to conduct this whole research using the help of Google form as a structured questionnaire and therefore data will be collected from only all those people who use internet, the target for survey was through social media platform to get an unbiased result for the survey to see any impact of government decisions have on the use of internet payments by the people.

With the help of a personally administered questionnaires, data is being collected from a sample of 104 people. With many folds of pre-testing to ensure about the reliability, depthness, understanding and comprehension of all questions. 2 out of 104 questionnaires were not in a state to be used further as they had many missing information. Thus, the final number of sample size comprised 102 respondents.

In addition, the primary data the research is also based on secondary data. This means data is already available, i.e. the data which have been already collected and analysed Secondary data the secondary data comprises of all the electronic payments modes used in India month wise from the period 2004 to 2018.

B. Data sources

Analysing and interpreting the information available in the RBI report as well as through NPCI website

The source of data has been chosen on the basis that they are highly celebrated for credibility and integrity at both national and international levels.

9. Trend of digital payments system of India over the period of time

If we see the mobile banking transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetization in the economy.

If we see the NEFT transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetization in the economy.

If we see the RTGS transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetization in the economy.

If we see the M wallet transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetisation in the economy.

If we see the IMPS transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetisation in the economy.
introduction of digital India campaign by the government while the rise in 2016 is due to demonetisation in the economy.

If we see the NACH transactions are increasing over the period of time but it has seen a sudden rise in 2015 and 2016 it can be anticipated that the rise in 2015 can be due to the introduction of digital India campaign by the government while the rise in 2016 is due to demonetisation in the economy.

Table 1
Using the primary data to analyse the difference in the usage of electronic payments by an employed and an unemployed person

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>EMPLOYED</th>
<th>UNEMPLOYED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO. OF RESPONDENTS</td>
<td>PERCENTAGE</td>
</tr>
<tr>
<td>ONCE A DAY</td>
<td>91</td>
<td>64.74%</td>
</tr>
<tr>
<td>ONCE A WEEK</td>
<td>92</td>
<td>52.02%</td>
</tr>
<tr>
<td>ONCE A MONTH</td>
<td>92</td>
<td>52.02%</td>
</tr>
<tr>
<td>MORE THAN THE ABOVE</td>
<td>90</td>
<td>63.51%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90</td>
<td>63.51%</td>
</tr>
</tbody>
</table>

After cross tabulating the primary data to know if employment has an impact on the number of transactions being made by the person.

We can see through the no of respondents that the number of respondents for all the criteria are high in the employed segment as we can see that number of respondents in once a day is 59.9% in employed and 40.91% in unemployed segment, once a week is 64.3% in employed and 35.29% in unemployed segment.

Once a month is 52% in employed and 48% in unemployed segment, more than the above is 63.64% in employed and 36.36% in unemployed segment.

Table 2
Using the primary data to capture if the element of risk in electronic payments will effect the usage by a customer

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES (%)</td>
<td>NO (%)</td>
<td>YES (%)</td>
<td>NO (%)</td>
</tr>
<tr>
<td>ONCE A DAY</td>
<td>92</td>
<td>64.74%</td>
<td>91</td>
<td>40.10%</td>
</tr>
<tr>
<td>ONCE A WEEK</td>
<td>92</td>
<td>52.02%</td>
<td>92</td>
<td>40.66%</td>
</tr>
<tr>
<td>ONCE A MONTH</td>
<td>92</td>
<td>52.02%</td>
<td>92</td>
<td>40.66%</td>
</tr>
<tr>
<td>MORE THAN THE ABOVE</td>
<td>90</td>
<td>63.51%</td>
<td>90</td>
<td>56.24%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90</td>
<td>63.51%</td>
<td>90</td>
<td>56.24%</td>
</tr>
</tbody>
</table>

Using the primary data, we can analyse if the element of risk has an impact on the usage of digital payments by the customer.

We see that among all the risk elements people under the response of NO have the highest number of users of digital payments. Under once a day the highest number comes from no risk involved i.e. 68.8%.

Under once a week criteria the highest number comes from 48% from NO risk involved followed by 32% from maybe risk is there to 20% of risk involved.

Under once a month criteria the highest number comes from 66.5% from NO risk involved followed by 34.2% from maybe risk is there to 11% of risk involved.

Under more than the above criteria the highest number comes from 58.3% from NO risk involved followed by 25% from yes risk is there to 16.7% of maybe risk involved.

10. Forecasting of digital payments of India

A. Checking for stationarity in RTGS

The RTGS followed an upward trend to forecast the series we will have to first make the series stationery by first differencing and checking then the stationarity by dickey fuller test.

<table>
<thead>
<tr>
<th>Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
</tr>
<tr>
<td>P- Value</td>
</tr>
<tr>
<td>alpha</td>
</tr>
</tbody>
</table>

interpreted:
H0: The results are not auto correlated
H1: The results are auto correlated

As the computed p-value is seen to be less than the alpha value =0.05, one can reject the null hypothesis H0, and accept the H1.

We see that the series in the first figure is not stationery after differencing it for 3 times then the series became stationery.
After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 131 the ACF is 1 while PCF is 1 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the RTGS transaction.

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 232 the ACF is 1 while PCF is 1 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the RTGS transaction.

C. Checking for stationarity in IMPS

The RTGS followed an upward trend to forecast the series we will have to first make the series stationary by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 2 times then the series became stationery.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>0.117</td>
</tr>
<tr>
<td>P-Value</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Alpha</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Interpretation:
H0: The results are not auto correlated
H1: The results are auto correlated

As the computed p-value is seen to be less than the alpha value =0.05, one can reject the null hypothesis H0, and accept the H1.
D. Checking for stationarity in NACH

The RTGS followed an upward trend to forecast the series we will have to first make the series stationery by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 4 times then the series became stationery.

Interpretation:

<table>
<thead>
<tr>
<th>Table 6: Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
</tr>
<tr>
<td>P-Value</td>
</tr>
<tr>
<td>alpha</td>
</tr>
</tbody>
</table>

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 343 the ACF is 3 while PCF is 4 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the M WALLETS transaction.

E. Checking stationarity for M wallets

The RTGS followed an upward trend to forecast the series we will have to first make the series stationery by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 3 times then the series became stationery.

Interpretation:

<table>
<thead>
<tr>
<th>Table 7: Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
</tr>
<tr>
<td>P-Value</td>
</tr>
<tr>
<td>alpha</td>
</tr>
</tbody>
</table>

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 334 the ACF is 3 while PCF is 4 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the M WALLETS transaction.

F. Checking for stationarity in mobile banking

The RTGS followed an upward trend to forecast the series we will have to first make the series stationery by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 3 times then the series became stationery.

Interpretation:

<table>
<thead>
<tr>
<th>Table 8: Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
</tr>
<tr>
<td>P-Value</td>
</tr>
<tr>
<td>alpha</td>
</tr>
</tbody>
</table>
Interpretation:
H0: The results are not auto correlated
H1: The results are auto correlated
As the computed p-value is seen to be less than the alpha value =0.05, one can reject the null hypothesis H0, and accept the H1.

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 233 the ACF is 2 while PCF is 3 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the MOBILE BANKING transaction.

G. Checking for stationarity in PPI

Fig. 20. Time step vs. Differencing

The RTGS followed an upward trend to forecast the series we will have to first make the series stationary by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 3 times then the series became stationery.

Table 9

<table>
<thead>
<tr>
<th></th>
<th>Dickey fuller results</th>
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</thead>
<tbody>
<tr>
<td>U</td>
<td>0.158</td>
</tr>
<tr>
<td>P-Value</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>alpha</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Interpretation
H0: The results are not auto correlated
H1: The results are auto correlated
As the computed p-value is seen to be less than the alpha value =0.05, one can reject the null hypothesis H0, and accept the H1.

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 141 the ACF is 1 while PCF is 1 and the number of integrations is 4 after applying the ARIMA model we will get further trend in the CREDIT CARDS transaction.

H. Checking for stationarity in credit cards

The RTGS followed an upward trend to forecast the series we will have to first make the series stationary by first differencing and checking then the stationarity by dickey fuller test.

We see that the series in the first figure is not stationery after differencing it for 4 times then the series became stationery.

Table 10

<table>
<thead>
<tr>
<th></th>
<th>Dickey fuller results</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>0.133</td>
</tr>
<tr>
<td>P-Value</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>alpha</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Interpretation
H0: The results are not auto correlated
H1: The results are auto correlated
As the computed p-value is seen to be less than the alpha value =0.05, one can reject the null hypothesis H0, and accept the H1.

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 141 the ACF is 1 while PCF is 1 and the number of integrations is 4 after applying the ARIMA model we will get further trend in the CREDIT CARDS transaction.

I. Checking for stationarity in debit cards

The RTGS followed an upward trend to forecast the series we will have to first make the series stationary by first differencing and checking then the stationarity by dickey fuller test.
We see that the series in the first figure is not stationary after differencing it for 3 times then the series became stationary.

H0: The results are not auto correlated
H1: The results are auto correlated

As the computed p-value is seen to be less than the alpha value = 0.05, one can reject the null hypothesis H0, and accept the H1.

After differencing the series became stationary if we see that the ACF and PCF are falling significantly using the ARIMA model 331 the ACF is 3 while PCF is 1 and the number of integrations is 3 after applying the ARIMA model we will get further trend in the DEBIT CARDS transaction.

11. Hypothesis results

Hypothesis 1:
- Digital India campaign led to increase in digital payments.
- We don’t reject this hypothesis and say that digital India campaign led to increase in digital payments in India

Hypothesis 2:
- Occupation has a positive impact on the usage of electronic payments
- We don’t reject this hypothesis and say that occupation has a positive impact on the usage of electronic payments.

Hypothesis 3:
- Electronic payments will follow an increasing trend in the coming years.
- We don’t reject this hypothesis and say that electronic payments will follow an increasing trend in the coming years.

Hypothesis 4:
- Risk has a negative impact on the usage of internet banking.
- We don’t reject this hypothesis and say that risk factor does have a direct negative effect on the decision to opt for electronic payments.

12. Suggestions

For easy execution of digitalised payment system of India, the following actions are suggested.

Government is expected to give the required transparency in electronic payment system in our country along with RBI the government should formulate a plan to make cashless transaction a better mode of payment.

The online method of payment should be encouraged by removing service charges levied on cards and digital payment so that the online payment system is encouraged.

Government should discourage the use of cash in the economy by levying more charges on the use of cash as a method of payment.

Government should encourage the spread of financial literacy campaigns to help in spreading awareness among the general public in terms of electronic payment system.

Linking the digital literacy campaign with other schemes like aadhaar authentication would help the government to better serve the citizen of the countries.

The schools curriculum should have a subject on online banking for the ease of doing internet banking by the millennial

Incentivizes all sections aimed at gradually adopting non-cash electronic modes of payment of cash. Schemes like Lucky Grahak Yojana and digidhan Vyapar Yojana can be constant in encouraging electronic manners of payment.

13. Primary results insights
14. Conclusion

This paper presented a Study on digital India campaign and digital payments system in India.

References