

Importance of Basel III Norms in Digital banking

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Abstract— The researcher has studied the views of people in respect of benefits of cashless transaction if transactions are safe, secure and risk free. The data was collected from the respondents with the help of structured questionnaire administered in Mumbai Region and analysed using simple percentage method, Mean, Median, Mode and One Sample Test with an objective to identify the benefits of digital banking specifically in respect of cashless transaction and to ascertain the operational risk associated with it. The study will also ponder upon on how Indian banks can promote digital banking by focusing on cashless transactions and through mitigate operational risk with proper implementation of Basel III norms. The study will also evolve on how Basel III norms are important for booming digital banking and smooth functioning of cashless transactions if highly automated technology is properly controlled from all types of risks including strengthening of internet security.

Keywords: Cash Economy, Cashless Economy, NEFT, RTGS, Debit / Credit Card

I. INTRODUCTION

Cashless economy or digital banking means more and more use of digital mode and less use of cash in day to day transactions. Cashless transaction means there will not be physical flow of cash among the people. In cashless transaction, payment is made by means other than physical cash. Every cashless transaction will be through Debit / Credit Cards, Cheques, National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS) or electronic transfers through services like Paytm, BHIM, Phonepe, payzapp etc.

Cashless societies are free from the corruption, has considerable less amount of black money in circulation, increase in employment opportunities, high standard of living.

Operational risk is one of the major risks faced by the bank which is embedded in all cashless transactions or digital banking. Traditionally operational risk is managed through various internal controls and inspections. Deregulation and globalization of financial services along with the growing sophistication of financial technology are making the activities of bank more complex having its impact on cashless transactions. Evolving banking practices suggest that risks other than credit risks and market risks can be substantial. The Basel Committee on Banking Supervision (BCBS), as part of the New Capital Adequacy Accord (hereinafter referred to as Basel III), has outlined a set of principles that provides guidance for effective management and supervision of operational risk that is really helpful for all the banks for smooth function of cashless transactions.

II. SIGNIFICANCE OF THE STUDY

The study will help to understand the benefits of cashless transaction or digital banking if risk part is mitigated by implementing norms of operational risk under Basel III.

III. OBJECTIVES OF THE RESEARCH PAPER

The objectives of the present study are as follows:

1. To identify the benefits of cashless transactions or digital banking.
2. To ascertain the operational risk associated with cashless transactions.
3. Impact of Basel III norms in cashless transaction

IV. HYPOTHESIS OF THE RESEARCH PAPER

Hypothesis 1

H0: There are not significant benefits of cashless transactions.

H1: There are significant benefits of cashless transactions

Hypothesis 2

H0: Mitigation of risk may lead to increase in cashless transactions.

H1: Mitigation of risk may not lead to increase in cashless transactions.

V. RESEARCH METHODOLOGY

The study is conducted to obtain data on benefits of the cashless transaction, risks associated with it and the role of

Basel III norms in mitigating those risks. In the present study, the research has used both methods primary methods and secondary method of data collection. The study is conducted in Mumbai region.

PRIMARY METHOD OF DATA COLLECTION

In primary method, researcher has collected data from 100 respondents from Mumbai region including bankers of Risk Management department. A sample size of 100 was selected using the convenience sampling method. The samples are included both literate and illiterate population.

Survey method is used for collection of data from the sample. The structured questionnaire was designed for the same to collect data (responses) from the sample which includes both open & close ended questions. However, the discussion, observation and personal interviews have been conducted to collect responses from the sample of the study.

SECONDARY METHOD OF DATA COLLECTION

The secondary data are those which have already been collected and passed through statistical process. The secondary data for the study were based on Annual reports, Newspapers, Journals, Published and Unpublished Books, Dissertation, mimeographed, official reports, research papers and other sources. The articles in magazines, Internet, Video has also been considered for the purpose of secondary data collection.

VI. LIMITATIONS OF THE STUDY

- The study was confined only in Mumbai region and limited to only 100 respondents.
- Research is confined only to the banks which lie in the Mumbai area.
- The results of the study depend on the reliability of the respondents.
- On the basis of the samples conclusion is acknowledged.

VII. DATA ANALYSIS AND INTERPRETATION

Data were collected from 100 respondents from Mumbai region including bankers of risk management department. Data collected by respondents were coded and tabulated. This data further used for drawing findings and conclusions based on the objectives and hypotheses of the study. Analysis particularly in case of surveys involves estimating the values of unknown parameters of the population and testing of hypothesis for drawing inferences. Analysis therefore categorized as descriptive analysis and inferential analysis which is often known as statistical analysis. The data collected from the 100 respondents were analysed using simple percentage method, Mean, Median, Mode and One Sample T-Test.

SAMPLE PROFILE

In the present study samples are selected using simple random sampling. In the Table 1.1, researcher has presented details of

the respondents according to their gender wise distribution. For the present study, 57 Males and 43 Females were deliberately and randomly selected for the response to questionnaire.

Table 1.1. Gender wise distribution of respondents

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Female | 57 | 57.0 |
| Male | 43 | 43.0 |
| Total | 100 | 100.0 |

Sources: Compiled from Primary Data

In the Table 1.2, the researcher has presented details of the respondents according to their age. Out of 100 respondents 23 respondents were below 18 years, 28 respondents were between 18 -25 years, 23 respondents were between 34 - 41 years to 45 and 12 respondents were between 42 years and above.

Table 1.2. Age (Years)

| Age | Frequency | Percent |
|--------------|------------|--------------|
| Below 18 | 23 | 23.0 |
| 18 -25 | 28 | 28.0 |
| 26-33 | 23 | 23.0 |
| 34-41 | 14 | 14.0 |
| 42 and above | 12 | 12.0 |
| Total | 100 | 100.0 |

Sources: Primary Data

In the Table 1.3, researcher has presented details of respondents about their marital status. Out of 100 respondents, 43 respondents were married whereas 57 respondents were unmarried.

Table 1.3. Marital Status

| | Frequency | Percent |
|-----------|-----------|---------|
| Married | 43 | 43.0 |
| Unmarried | 57 | 57.0 |
| Total | 100 | 100.0 |

Sources: Compiled from Primary Data

In the Table 1.4, researcher has presented details of the respondents about their education level. 10 respondents do not have any qualification, 14 respondents were below 8th std., 15 respondents were between 8th Std. -10th std., 21 respondents were H.S.C., 15 respondents were Graduate, 13 respondents were Post Graduate, 12 respondents were Professional.

Table 1.4. Qualification

| Qualification | Frequency | Percent |
|---|-----------|---------|
| None | 10 | 10 |
| Below 8th std. | 14 | 14 |
| 8 th Std. -10 th std. | 15 | 15 |
| HSC | 21 | 21 |
| Graduate | 15 | 15 |
| Post Graduate | 13 | 13 |
| Professional | 12 | 12 |
| TOTAL | 100 | 100 |

Sources: Compiled from Primary Data

In the Table 1.5, researcher has presented details of the respondents according to their occupation. Out of 100 respondents, 18 respondents were students, 17 respondents were housewives, 26 respondents were salaried, 9 respondents were (Self-employed) Business, 26 respondents were professional and 4 respondents were retired.

Table 1.5. Occupation

| Occupation | Frequency | Percent |
|--------------|------------|------------|
| Student | 18 | 18 |
| Housewife | 17 | 17 |
| Salaried | 26 | 26 |
| Business | 09 | 9 |
| Profession | 26 | 26 |
| Retired | 04 | 4 |
| Total | 100 | 100 |

Sources: Compiled from Primary Data

In the next table researcher has presented details of the respondents according to their monthly income in (Table 1.7). 52 respondents were earning up to Rs.25,000, 22 respondents were earning between 25,001 to 50,000, 16 respondents were earning between 50,001 to 75,000 and 2 respondents were earning between 75,001 to 1,00,000 and 8 respondents were earning between 1,00,001 and above.

Table 1.7. Monthly Income

| Income in Rs. | Frequency | Percent |
|-----------------|-----------|---------|
| Up to 25,000 | 52 | 52.0 |
| 25,001 - 50,000 | 22 | 22.0 |

| | | |
|--------------------|------------|--------------|
| 50,001 - 75,000 | 16 | 16.0 |
| 75,001 - 1,00,000 | 2 | 2.0 |
| 1,00,001 and above | 8 | 8.0 |
| Total | 100 | 100.0 |

Sources: Compiled from Primary Data

ANALYSIS OF DATA OF THE PRESENT STUDY

To identify the benefits of cashless transactions, risks associated with cashless transactions and the role of Basel III norms to boost cashless transactions, the respondents were asked to express their views on the five point benefits scale. The codes for which are given below.

SA = Strongly Agree = 5

Agree = 4

Neutral = 3

Disagree = 2

SD = Strongly Disagree – 1

Please refer Appendix-1 (For table 1.8)

Table 1.8 shows responses of the respondents in frequency and percentage. From the above table, it can be concluded that there are various benefits of cashless transaction such as No need to carry huge amount in hands, Easy and Faster Transactions, Easy way to track spending, Expenditure within budget, No hassles of odd change (No need to carry Change), Less Risky as Loss of hard earned money can be avoided, increase Revenue to Government, Reduces the cost of printing and transportation, pay bills, recharges and other payment 24*7*365, No need to go to Bank every day to deposit cash to your saving or current, No need to rely on bank branches but cashless transactions may bring lot of potential risks like Chances of online fraud, issue of password protection and even awareness of new technology or financial illiteracy which are the part of operational risk and has to be mitigated by developing a robust and comprehensive operational risk management and measurement framework as per Basel III norms.

Table 1.9. Descriptive parameters related to benefits and risks in Cashless Transaction

| Sr. No. | Benefits of Cashless Transaction | Mean | Median | Mode |
|---------|---|------|--------|------|
| 1. | No more bulky wallets (No need to carry huge amount in hands) | 3.38 | 4.00 | 4 |
| 2. | Easy and Faster Transactions | 3.88 | 4.00 | 4 |
| 3. | Chances of online fraud | 4.10 | 4.00 | 4 |
| 4. | Easy way to track spending | 4.46 | 5.00 | 5 |
| 5. | Issue of Password protection | 3.47 | 3.00 | 5 |

| | | | | |
|-----|---|------|------|---|
| 6. | No hassles of odd change (No need to carry Change) | 3.48 | 4.00 | 4 |
| 7. | Less Risky (Loss of hard earned money can be avoided) if properly monitored by banks | 3.55 | 4.00 | 4 |
| 8. | Financial Illiteracy may lead to fraud | 3.09 | 4.00 | 4 |
| 9. | Develop a robust and comprehensive operational risk management and measurement framework as per Basel III norms to optimize the operational risk and will increase cashless transactions. | 2.92 | 3.00 | 4 |
| 10. | Reduces the cost of printing and transportation | 3.40 | 3.00 | 4 |
| 11. | You can pay bills, recharges and other payment 24*7*365 | 3.77 | 4.00 | 5 |
| 12. | No need to go to Bank every day to deposit cash to your saving or current | 3.81 | 4.00 | 4 |
| 13. | No need to rely on bank branches if it is risk free | 3.83 | 4.00 | 5 |

Sources: Compiled from Primary Data

Interpretation

Above Table 1.9 shows descriptive parameters such as Mean, Median and Mode related to benefits of Cashless transactions. From the above table, it can be concluded that the Mean of benefits and risks in Cashless transaction is closed to 4. Median and mode of benefits and risks in cashless transaction is also closed to 4.

HYPOTHESES TESTING OF THE STUDY

HYPOTHESIS 1:

H0: There are not significant benefits of cashless transactions

H1: There are significant benefits of cashless transactions

For testing these hypotheses, researcher has used **One-Sample Test**

Table 1.10. One-Sample Test

| One-Sample Test | | | | | | |
|----------------------------------|-------|----|-----------------|-----------------|---|--------|
| Test Value = 3 | | | | | | |
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Benefits of Cashless Transaction | 5.489 | 12 | 0.000 | 0.62615 | 0.3776 | 0.8747 |

Observation:

From above table no. 1.10 it is observed that $t(12) = 5.489$, $P=0.000$.

Interpretation:

P-value is 0.000 which is less than 0.05. Therefore, we reject null hypothesis and accept alternative hypothesis.

HYPOTHESIS 2:

H0: Mitigation of risk may not lead to increase in cashless transactions.

H1: Mitigation of risk may lead to increase in cashless transactions.

Table 1.11. One-Sample Test

| One-Sample Test | | | | | | |
|---|-------|----|-----------------|-----------------|---|--------|
| Test Value = 3 | | | | | | |
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Risk mitigation on Cashless Transaction | 2.647 | 12 | 0.000 | 0.5315 | 0.2436 | 0.4649 |

Observation:

From above Table 1.11 it is observed that $t(12) = 2.647$, $P=0.000$.

Interpretation:

P-value is 0.000 which is less than 0.05. Therefore, we reject null hypothesis and accept alternative hypothesis.

VIII. FINDINGS OF THE STUDY

In both hypotheses 1 & 2, Null hypothesis has been rejected and alternative hypothesis has been accepted which clearly indicates that there are significant benefits of cashless transactions if there is a proper mitigation of risk which would certainly bring boost/increase in the cashless transactions.

CONCLUSIONS

From the appendix 1 and above table 1.9 and 1.10, it can be concluded that there significant benefits of cashless transaction such as No need to carry huge amount in hands, Easy and Faster Transactions, , Easy way to track spending, Expenditure within budget, No hassles of odd change (No need to carry Change), Less Risky as Loss of hard earned money can be avoided, Increase Revenue to Government, Reduces the cost of printing and transportation, can pay bills, recharges and other payment 24*7*365, No need to go to Bank every day to deposit cash to your saving or current, and no need to rely on bank branches

Emergence of banks acting as very large volume service providers creates the need for continual maintenance of high-grade internal controls and backup systems since cashless transactions may bring lot of potential risks like chances of online fraud, issue of password protection and even awareness of new technology or financial illiteracy which are the part of operational risk. Hence, Indian banks have to develop a robust and comprehensive operational risk management and measurement framework as per Basel III norms to optimize the operational risk and will definitely bring boost/increase in the cashless transactions.

IX. SUGGESTIONS AND RECOMMENDATION

1. There should be strengthening of Internet Security to protect online fraud.
2. A financial literacy campaign should be conducted by the Government, Banks and other financial institutions from time to time to make population aware regarding benefits of cashless transactions.
3. There should be good infrastructure facility i.e. Internet facility for all the customers.
4. Highly Automated Technology if not properly controlled has the potential to transform risks from manual processing errors to system failure.
5. Develop a robust and comprehensive operational risk management and measurement framework as per Basel III norms to optimize the operational risk commensurate to bank's risk profile and risk appetite
6. Create culture and environment for the effective management of operational risk as per Basel III norms in the bank
7. Proactively identify and assess the Operational Risk areas in each of the product/activity/process in all cashless transactions
8. Measure, monitor and control operational risk inherent in all such products/activities /processes in all cashless transactions
9. Implement / improve controls towards mitigation of significant operational risks in a cost effective manner
10. Develop and maintain a data bank of potential risk exposures.
11. Embed the results of operational risk management processes into day to day business of the bank.

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Authors Profile

Dr. Himanshu Gupta is a chief Manager in one of the renowned public Sector bank of India. He has been serving the bank industry for more than 10 years after completing his MBA from Welinkar Institute of Management, Mumbai. He acquired so many other qualifications in finance like JAIIB & Diploma in treasury, Investments and Risk Management from Indian Institute of Banking & Finance. Recently in July, 2018, he has completed his Ph.D in finance & Risk Management from Mohanlal Sukahadia University, Udaipur. During his illustrious career in banking & finance he was intensively involved in strategic planning for his bank wherein he has worked in revival of Commercial and wholesale banking and worked as an Incharge of Retail Hub of one of the biggest Zone of the country.

He was awarded with three consecutive "Best Employee and Change Agent Award" Award for his bank from financial year 2016, 2017 & 2018. He is a great academic orienteer and delivered many lectures on Marketing analytics, banking and Risk Management for many institutions and conferences. He is highly skilled at problem solving, great motivator with exceptional presentation & inter-personal skills.

APPENDIX-1

Table 1.8. Cashless Transaction and Risks (in Frequency)

Sources: Compiled from Primary Data

| Sr. No. | Advantages of Cashless Transaction | SA | | Agree | | Neutral | | Disagree | | SD | |
|---------|---|----|----|-------|----|---------|----|----------|----|----|----|
| | | F | % | F | % | F | % | F | % | F | % |
| 1. | No more bulky wallets (No need to carry huge amount in hands) | 22 | 22 | 33 | 33 | 6 | 6 | 39 | 39 | - | - |
| 2. | Easy and Faster Transactions | 25 | 25 | 38 | 38 | 37 | 37 | - | - | - | - |
| 3. | Chances of online fraud | 38 | 38 | 48 | 48 | 14 | 14 | - | - | - | - |
| 4. | Easy way to track spending | 63 | 63 | 28 | 28 | 1 | 1 | 8 | 8 | - | - |
| 5. | Issue of Password protection | 34 | 34 | 12 | 12 | 22 | 22 | 31 | 31 | 1 | 1 |
| 6. | No hassles of odd change (No need to carry Change) | 76 | 76 | 16 | 16 | 2 | 2 | 4 | 4 | 2 | 2 |
| 7. | Less Risky (Loss of hard earned money can be avoided) if properly monitored by banks | 11 | 11 | 54 | 54 | 21 | 21 | 7 | 7 | 7 | 7 |
| 8. | Financial Illiteracy may lead to fraud | 17 | 17 | 39 | 39 | 1 | 1 | 22 | 22 | 21 | 21 |
| 9. | Develop a robust and comprehensive operational risk management and measurement framework as per Basel III norms to optimize the operational risk and will increase cashless transactions. | 21 | 21 | 30 | 30 | 20 | 20 | 8 | 8 | 21 | 21 |
| 10. | Reduces the cost of printing and transportation | 22 | 22 | 34 | 34 | 28 | 28 | 15 | 15 | 1 | 1 |
| 11. | You can pay bills, recharges and other payment 24*7*365 | 34 | 34 | 28 | 28 | 21 | 21 | 15 | 15 | 2 | 2 |
| 12. | No need to go to Bank every day to deposit cash to your saving or current | 21 | 21 | 59 | 59 | - | - | 20 | 20 | - | - |
| 13. | No need to rely on bank branches if risk free | 38 | 38 | 27 | 27 | 21 | 21 | 8 | 8 | 6 | 6 |