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A study on the role of digitalization in analyzing credit risk of banks: Privileges and Drawbacks

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ABSTRACT

The present study explains about the role of digitalization in banking sector along with privileges and its drawbacks. On the night of 8 November 2016, the honorable Prime Minister of India, Shri Narendra Modi made a statement that Rs 500 and Rs 1000 notes in circulation would stop to be legal tender from midnight onwards. Thus, with one announcement the Prime Minister changed about 86% of the currency notes in the Indian economy to simple pieces of paper. The key objectives of the bold step that the NDA government at the centre has taken is to control and eradicate the black money which forms a parallel economy in the country and eradicate the movement or circulation of fake currency from the Indian economy. This movement is called demonetization. Presently gove rnment is trying to step forward for a cashless economy. A campaign was launched for encouraging people to avoid using of liquid cash. A cashless economy is defined as an economy depending on digital transactions in which all the monetary undertakings are done digitally and on credit base. Cashless transactions refers to using of debit cards, credit cards, e- wallets, internet banking for purchases or for making payments instead of using hard cash. Encouragement was given to make use of digital payments, going cashless etc. In the past few years digitalization has emerged as an important tool for economic growth and economic development. People are more depending on technology and digital networking which made their work easier. There are both advantages as well as disadvantages in digitalization. The study explains both advantages and disadvantages of digitalization in banking sector. So it is called as digital economy or digital world. In the present economy, digital networking and communication infrastructures provide a global stand above which people as well as organizations are able to develop strategies, interrelate, correspond, work together and search for information. Credit is mainly defined as an agreement which is based on trust of both the parties for exchanging goods, services, or even money to pay them later. Credit risk of banks is explained better as non- performing assets. The main important problem which the banks are now facing is Non- performing assets. Either public sector banks or private sector banks, the problem of non- performing assets are faced by both the banks. The reasons behind the increase in non- performing assets have been evaluated. The study analyzes the effect of digitalization on non- performing assets. This suggests suitable strategies to control and manage non-performing assets. The objective of the study is to analyze the credit risk in banks due to digitalization. The privileges and drawbacks in digitalizing of banks have been expressed in this paper. Descriptive and analytical type of research is used for the study. Secondary as well as primary data has been gathered for the study. The sources for the data are through the websites, annual reports, journals and books. The statistical tools like Regression, correlation, Kruskal Wallis test were used for evaluating the hypothesis. The present study analyzes the role played by digitalization in banking sector. Hypothesis explains that there is significant difference in the changes which took place in banking sector before and after digitalization. The gathered data evaluates the role of digitalization on banks and the banks opportunities and privileges. This explains the effect of digitalization on banks credit. The tools analyses the relation of two different variables of the same population. The results were evaluated in the study. Based on the evaluation, findings and suggestions were specified in the study. The study helps banks in analyzing their credit risk due to digitalization. The main purpose of the study is to analyze the reasons for increase in credit

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risk due to digitalization. The study describes the credit risk of banks before and after digitalization. It analyzes whether the credit risks of banks have been increased or decreased after digitalization. The objectives of research, hypothesis formulated, definition of the basic terms, assumptions, limitations and references are discussed in the study.

Key Words: Credit Risk, Banks, Digital economy, Drawbacks, Privileges.

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INTRODUCTION:

With the decision of honorable Prime minister of India, Shri Narendra Modi about 500 and 1000 rupees notes on 8th November 2016. Prime minister announced that from 8th November 2016 all the 500 and 1000 rupees notes circulation would be stopped. The main objective is to control the black money which is forming a parallel economy in the country and even to eradicate the fake currency from Indian economy. Terrorist financing is another important problem that made the government to take such a crucial decision. This move is called demonetization.

This step has received both support and criticism from Indians. Indians faced many problems during that situation. The aim of the government is to step ahead towards a cashless economy. Along with public banks also suffered a lot. Cashless transaction, means using of credit cards, debit cards, e-wallets, internet banking for the purchases and payments in place of hard money.

The process of moving from cash transactions to a digital business is termed as Digitalization. It is changing the way activities are done. It is using of digital technologies in business activities. It simply said as converting or changing the information into digital format, in this the information is operated into bits. Digitalized information is generally converted into binary digits and can be processed by computers. The computer decodes the digits and provides information that is human-readable. It is considered as one of the first true revolution in the past business

The main aim of digitalization is to create a value from the use of new, superior technologies by exploiting digital network dynamics and the massive digital flow of information. It can be said that use of digital technologies to change business models. Adopting new and latest technology to our day to day life is digitalization.

There are key market players, the key market players are distributors and producers, film practitioners and associations, cultural policymakers, and politicians.

Review of literature:

1. **Ankit Garg (2016)** Author in his study explained the concept of non- performing assets and reasons which are responsible for non- performing assets. He also explained the effect of non- performing assets on profitability of banking system. All the external and internal factors which are responsible for non- performing assets are explained in the study. He suggested the ways to identify the non- performing assets in the beginning days only. The preventive measures for solving non- performing assets are also analyzed. Study extended explaining about the schemes for compromise settlements in which author discussed about one time settlement scheme and negotiated settlement scheme.
2. **Ankit Gupta (July 2018)** "**Enabling Business of Agriculture via New Financing Technologies"**
   The author analyzed the impact that the e- NAM and Kisan call center are having on daily lives of a farmer all over India. Author compared the minimum and maximum price and model prices of e- NAM and Sonepat mandi. Author analyzed how medium farmers are getting huge money by covering paddy and lady finger crops. The result showed that the farmers are able to earn more on ladyfinger than paddy. Author recommended the farmers to grow lady fingers and by the government involvement to formulate proper regulation. This helps farmers to grow more of lady finger crop and grow paddy in normal quantity by using rotation process. With the comparison of prices the author analyzed that the farmers who are

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selling through e- NAM were earning more amount rather than physical selling. Author concluded the study by saying that both e-NAM and Kisan Call Center (KCC) when implemented effectively at a larger scale all over India, helped farmers in their agriculture management practices. Author suggested farmers to take help of E-NAM which is arranging time to time awareness campaigns at block level in every village where e-NAM mandi is available. They should provide farmers with digital literacy short courses which makes them aware about how to use digital banking services

3. **Dr. Sangeetha kumar (2018)** Author in his study analyzed the concept of non- performing assets in Indian banking. She evaluated the trend of Gross NPA and Net NPA related to schedule commercial banks for a period of 17 years. She even discussed various recovery channels of NPA with the help of financial tools like trend analysis. In her study she evaluated that there was a decrease in NPA from 2000- 2005. But after 2005 we can see a significant increase in NPA, it is because of the increased interest rates, which became burden to the borrowers to repay the loans. Author analyzed different recovery channels for NPA like Lok adalats, DRT's (debt recovery tribunals), Sarfaesi act which explains that banks are making all efforts to reduce their NPA. She finally concluded suggesting that government should also manage this issue efficiently. The recovery amount can be used for solving basic problems like poverty, unemployment, imbalances of balance of payment which leads to economic growth and development.
4. **K. Prashanth kiran and T. Mary Jones (2016)** Authors made a selected study on public sector banks in India to evaluate the effect of non- performing assets on the profitability of banks. The main objective of the study is to analyze the relationship between non-performing assets and profitability of the banks, by considering the banks performance. Considering 5 nationalized banks and SBI, a comparative study has been carried out using gross and net non- performing assets. The results were calculated using correlation. Authors in their study classified the non- performing assets into 3 types and explained the causes of non- performing assets and problems which are being raised due to non- performing assets. The study was concluded explaining about non- performing assets and the opinion that large banks are able to manage non- performing assets by their huge profits but it was not possible with the small banks. Authors suggested banks to mainly focus on managing the non-performing assets to increase their profitability. Finally organizations should develop strategies to recover their loans.
5. **Peterson Kitakogelu Ozili (Jan 2018)**
Author discussed about few issues which are related to digital finance. The concepts and benefits of digital finance and financial inclusion to different users have been analyzed. Many issues which are related to digital finance are verified and suggested for the betterment of country level projects in developing and emerging economies. Analysis has been done on the concepts and benefits of financial inclusion. The concepts and benefits of fin- tech providers are also discussed. Author explained the framework to illustrate the role of government, fin- tech and banks in digital finance and financial inclusion. There are many challenges which are being faced by fin- tech; a few of them were analyzed. Author concluded the study analyzing the pros and cons of digital finance. He also concluded that digital finance through fin- tech providers have positive effect for financial inclusion in emerging and advanced economies and the convenience that digital finance provides individuals with low and variable incomes which was always more valuable to them than the higher cost they will pay to obtain such services from convenient regulatory banks.

6. **Shenbagavalli R (2014)** Author mainly focuses on the impact and effect of non-performing assets of public sector banks and suggested suitable strategies and policies to control and manage non- performing assets. As per RBI in 2012- 13 there was remarkably increasing, the reasons were specified in the study. They are due to poor asset quality and ineffective information systems. The study analyzed the main determinants of cause of non- performing assets, which included both internal and external factors like default by the borrower and inefficient credit appraisal system. Statistical tools like multiple regression, T- test, Factor analysis, Frequency table, reliability test were used for analyzing the cause and impact of non- performing assets of public sector banks. In addition to that the study discloses that inefficient management, inappropriate technology, labour problems are the other factors which influence the increase in default rate of non- performing assets in public sector banks. Author suggests the banks to briefly scrutinize the financial statements. He even suggests to have a face to face discussion and inspection of borrower business and even to enhance the effective management information systems.

After studying various research papers and articles, besides the above mentioned, the following important observations with regard to NPA can be made:

OBJECTIVES OF THE STUDY:

1. To study the role played by digitalization in analyzing the credit risk of banking sector.
2. To study the privileges for banks due to digitalization.
3. To study the drawbacks for banks due to digitalization.

SCOPE OF THE STUDY:

1. The study covers the banking sector only.
2. It used only few statistical tools for evaluating the study.
3. The study analyzed the role of digitalization on credit risk of banking sector.
4. The study covered only the privileges and drawbacks.

RESEARCH METHODOLOGY:

Descriptive as well as Analytical type of research is used for analyzing the objective of the study.

- Analytical research represents the investigative and organized study using the facts which are already available to come to a conclusion.
- Descriptive research represents expressive and graphical representation of the data for analyzing and representing the result for the study.

DATA COLLECTION:

1. **Tools and Techniques:**
   - **Regression:** Regression analysis helps to identify the relationship between two variables.
   - **Karl Pearson coefficient of Correlation:** Correlation helps to identify the average relationship between two variables.
   - **Kruskal Wallis test: (H)** it is also known as one-way ANOVA on ranks is a non-parametric method of testing whether samples originate from same distribution. Generally, it is used in comparing two or more independent samples of equal or even different sample sizes.
2. **Primary data:** Personal interactions with the management of banks.
3. **Secondary data:** Data from websites, journals, books, annual reports are used for the study.

HYPOTHESIS:

1. **H0:** There is no significant impact of digitalization on analyzing banks credit risk.

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H1: There is significant impact of digitalization on analyzing banks credit risk.

2. **H0:** There is no significant influence on privileges for banks due to digitalization.
   H1: There is significant influence on privileges for banks due to digitalization.
3. **H0:** There is no significant influence on drawbacks for banks due to digitalization.
   H1: There is significant influence on drawbacks for banks due to digitalization.

Role of digitalization in analyzing credit risk of banking sector:

1. Improved business effectiveness
2. Massive cost savings
3. Accurate and consistent performance
4. Quicker internal and external processes
5. Betterment of customer relationships
6. Helps to stay ahead of competition
7. Helps in customer acquisition
8. Cost savings.
9. To enhance customer experience

Privileges of digitization in banking sector:

1. Enhanced customer experience.
2. Decline of costs for banks as well as customers by using ATMs, cashless transactions etc.
3. Banks can avail more digital data, by which they can take active decisions which benefits both the banks and customers.
4. Technology is evenhanded. Each and every customer is treated same at banks.
5. Banking customers has increased because of the convenience of banking.
6. Digitalization decreases human faults.
7. Handling of large amounts of cash would be concentrated.
8. Opening and maintaining bank accounts became easier.
9. Recurring tasks would be reduced by digitalization.
10. Rural and urban gap will be eliminated.
11. Fake currency threat would be reduced.
12. Productivity will be improved.
13. Payments and receipts have increased using smart phones.

Drawbacks of digitization in banking sector:

1. The efforts of employees have decreased due to the introduction of digitalization which results in loss of jobs.
2. Lack of security and dissatisfaction among employees.
3. Some bank branches may cease to exist with the increasing use of online banking.
4. Banks will be more exposed to cyber attacks.
5. Banks should compromise for privacy.
6. Storing of crores of money becomes difficult.
7. Adoption of new technology leads to spending more money on training of their employees to use them.
8. Banks need to bear loss if there is any small mistake or error in their accounts.

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9. The Indian people are not much educated to know the benefits of using cards or online payment methods.

Advantages of taking Bank Loans:

1. **Flexibility:** Now a day it is very easy to get bank loans. Customers just need to repay the loan amount and installment amounts on the stipulated time. Generally banks don't monitor about how the loan amount is used as long as the installment amount is paid on time. It is customers wish to invest however and where ever he wants.
2. **Cost Effective:** When we compare the interest rates, bank loans are very cheap than credit cards. The lowest interest rates on loans is more effective for the customers rather than credit cards, as the fixed interest rates of credit cards has surged to 17.49%, while the banks are providing loans with 7.5 to 10% rates, this is according to Bank rate as on October 2018. Instead of opting credit cards customers can choose bank loans, for saving their money.
3. **Retained Profits:** There are some businesses who issue equity to raise capital, they frequently give a percentage of their profits to their shareholders, and banks only require borrowers to pay their principal amount and interest amount for a loan. By this businessmen can retain all their business profits.
4. **Tax Benefits:** Customers generally use bank loans for their business reasons. The interest they pay for their loan will be a tax exemption or it will be a tax deductive expenses. Based on the loan amount and percentage of interest amount tax will be exempted.

Disadvantages of taking Bank Loans:

1. **Strict Requirements:** There are many regulations which are to be followed for acquiring a loan. They need to assure some assets for getting a loan. It is very difficult to get bank loan until you show some assets as assurance. Then only the loans would be approved. If the borrowers choose to opt for unsecured loans, they are knocking with higher interest rates. Even they should take care of their credit score. With a lower credit score it becomes difficult to get loans in future.
2. **Repayment Burden:** Loan borrowers must make interrupted payments to their banks. Those who fall behind or fail to repay on payments face they have to overcome their assets seized. Even if the customers handle to make late payments, bank could still report to credit rating agencies, a step which negatively affects ones credit score. With a lower score, getting loans in the future again becomes more complicated. The repayment burden is a drawback compared to raising money all the way through shareholders, because shareholders don't necessitate regular repayments. Instead, they are usually paid dividends only on profits.
3. **Irregular Payment Amounts:** If a customer gets a bank loan with a variable interest rate, the rate changes with market situations. This makes it difficult to calculate approximately the amount of future payments. As a result, this becomes a gigantic challenge to compose sound financial plans.

The main problem underlying the banks is the problem of credit. There are many reasons which are responsible for the high credit rate in both public sector and private sector banks. Let us first

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consider the NPA of both public and private sector banks and then we can analyze the reasons which are responsible for it and necessary suggestions to overcome this problem.

Material and Method:

Hypothesis 1:

Applying Regression for two variables (SBI & ICICI) and (Axis & PNB) the "r" values are 0.946 and 0.900 which are positive this indicates that they are highly correlated. There is a significant influence on role of digitalization in analyzing credit risk of banking sector. Therefore null hypothesis is rejected and alternate hypothesis is accepted.

Hypothesis 2:

Applying Karl Pearson coefficient of correlation for the two variables (SBI & ICICI) and (Axis & PNB) the "r" values are 0.76 and 0.084 where the public sector banks are highly correlated which indicates that credit risk of public sector banks are higher than the private sector banks. The indicators may not be directly correlated but the policies, regulations and the loan recovery methods adopted by the private sector banks will influence the NPA of public sector banks. This indicates that there is no significant influence on privileges of banks due to digitalization. Therefore null hypothesis is accepted and alternative hypothesis is rejected.

Hypothesis 3:

After testing the normality for the variables Kruskal Wallis rank test was applied, where the calculated value for public sector banks is 5.6 and private sector banks is 22.73with the table value of 0.711. Hence Calculated value> table value.

This indicates private sector banks have more drawbacks than public sector banks. Therefore there is significant influence of digitalization on banking sector.

So null hypothesis is rejected and alternative hypothesis is accepted.

LIMITATIONS OF THE STUDY:

1. The study has been limited to analyzing the role of digitalization in banking sector.
2. Only the privileges and drawbacks due to digitalization were analyzed.
3. Three statistical tools were used for the study.
4. Regression, Karl Pearson rank correlation and Kruskal Wallis rank test were used.
5. Secondary data was used for analyzing the study.
6. Only non- performing assets were considered for analyzing credit risk of both public sector and private sector banks.

FINDINGS:

1. With the digitalization there was positive effect on banking services but there was no effect on non- performing assets. Because the percentage gross NPA was increased year after year which shows no effect on credit risk of banks due to digitalization.
2. There are many privileges for banking sector in digital economy. The services which are being rendered by the banking sector have been increasing like ATM's, NEFT, RTGS, DD's etc. The time taken to serve a customer has also been decreased.
3. There are many drawbacks for banking sector in digital economy. There is a chance of hacking of the systems or the software, which results in great damage to the customers and even banks.

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4. There are advantages as well as disadvantages which are being faced by banking Sector due to digitalization. This affects both customers and banks. There is a chance of fraud.
5. Private sector banks have less non- performing assets when compared with public sector banks. Public sector banks seem to be more stressed than the private sector banks.

SUGGESTIONS:

1. Firstly banks should know their customer, when they are able to identify their customers; it becomes easy for the banks to serve their customers better than their competitors.
2. Banks should retain their customers by providing timely services to their customers.
3. Banks need to update themselves with the latest technology that customers expect. Providing quality services by updating themselves with latest technology.
4. They need to promote confidence to the customers. This is very important task of every bank. Promoting confidence to customers will make them stick to the same bank.
5. Banks should always be ready to face any challenges. Even to face any competition or hurdles. They should be ready with their latest and updated technology.
6. Know about themselves and their reputation in the public. It is very important as brand makes more sense. When reputation in public is good then banks can survive in the market. If not they need to face many problems.

CONCLUSIONS:

This article provides a discussion on digitalization in banking sector. The role played and the privileges and drawbacks underlying it. Digitalization has positive effect on banking sector. There is much advancement in the services provided by banks. Customers are more satisfied when compared with opportunities before digitalization. Despite the privileges and drawbacks this study highlighted the advantages and disadvantages being faced by banks.

Digitalization plays a major role in banking sector in providing efficient services to the customers very quickly. Now a day's people don't have much time to stand in queue for any transaction to be done. They can sit at home, with the help of a smart phone they can operate anything and anywhere.

But it did not involve any improvement in credit risk of banks. Generally banks take third party opinion like credit rating agencies, before providing any loan to the customer. After taking these steps to decrease, there is still an increase in non- performing assets. Credit rating agencies provide a third party opinion from the bankers. They give report in the form of credit score.

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