

ORIGINAL RESEARCH

## Disruptive innovations and its impact on public sector banks in India

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The banking sector has incorporated emerging changes to meet customer requirements and enhance growth. Merger and acquisitions are one of the major changes in the banking industry. Mergers and acquisitions have created scope for the adoption of disruptive inventions in banking technology. The adoption of financial technology (FinTech) over recent years has changed the landscape of Indian public sector banks. These disruptive innovations improve the performance, efficiency, and quality of services of public sector banks. Technological innovation in banking has increased the competency level of public sector banks. Customers are interested to adopt these disruptive inventions because the electronic mode is having more scope and is convenient for them. This study identifies the financial progress and inventions in the banking sector. The study aims to know the changes brought by disruptive technologies on the services of public sector banks.

**Keywords:** public sector banks, Mergers and acquisitions, disruptive innovations, financial technology

### Introduction

The sector has developed various innovations through disruptive technologies. The financial technology enables secured financial transactions through disruptive innovations to serve the customers and safeguard their interest. These changes have made the entire banking business more vibrant. FinTech as a disruptive technology for banking is an important reference source that encompasses many applications in banks. Disruptive technology is deployed to improve operational efficiency, to form new markets, and to deliver standard services and new banking products to the customers as well as for the benefit of the banks.

The banking industry has evidenced major changes by adopting disruptive digital innovations such as blockchain, robotics, and artificial intelligence to provide customer service through chatbots and software robots for banking.

The banks manage their customer relationship management through the application of artificial intelligence-enabled systems, which is one of the major disruptive innovations that modify the procedures and approaches of the model used by banks in delivering the services. This has a significant impact on the acceptance level and response of customers toward technological transformation.

### Review of literature

1. Vani (1): The technological advancement in banking has made tremendous changes in the workforce of the entire banking industry. The research paper describes the impact of technologies on banking and major issues in adoption of these technologies. The study was focused to identify the effect of changes in banking practices by the implementation of new disruptive technology.

2. Visalakshmi et al. (2): The study has identified the changes brought by disruptive innovation in the banking industry. The paper reveals that customers accepted these technological advancements as it is convenient and easily accessible for them. The customers' level of acceptance is high as it is fulfilling their needs and expectations. But adopting all emerging technologies leads to an increase in the cost of services and becomes more expensive. It is concluded that technology enhances changes in the banking sector by offering a wide range of products and services through FinTech platforms.
3. Murugaiyan and Kamalam (3): The purpose of research is to know the level of technological improvements in the Indian banking sector. The study also focused on the improvements made by the banks in adopting disruptive innovations and also suggested remedial measures to create awareness on usage of these innovations.
4. Rajani and Roshan (4): The study has given insight into the adoption of new banking technology and also discussed the major issues of Indian banks in adopting these technological advancements. It was identified that the customers are not reluctant to accept these advancements and they are very much interested to receive this transformation to enjoy the wide range of quality services.

## Statement of the problem

Mergers and acquisitions are major trends in Indian public sector banks. The banking sector has viewed many changes because of technological advancement. Disruptive technologies, such as FinTech and artificial intelligence, have greater scope in providing quality services that affect the proficiency and performance of the banks. The study aims to understand the effect of disruptive innovations in the banking system and also identify the impact of disruptive innovation on Indian public sector banks.

## Objectives

The objectives are as follows:

1. To know the various disruptive innovations which influence Indian public sector banks.
2. To identify the effects of disruptive technologies implementation in public sector banks.

## Scope of the study

The study is all about the various disruptive technologies that influence the banking sector. The recent development in the banking industry has more dependency on disruptive technology. This study identifies the effects of disruptive technologies implementation on Indian public sector banks.

## Research methodology

The nature of the research is completely descriptive. The data for the study have been collected by using secondary sources only to find the major observations on adopting disruptive technology by the public sector banks.

Secondary Sources: Bank websites, articles, journals, and research papers.

## Major disruptive technologies adopted by Indian public sector banks

1. Cloud computing: Cloud computing ensures the protection of customer data and creates new opportunities by implementing new delivery channels in the banking business. The banks can reduce the data storage cost through cloud-based services and can save the various expenses such as operational and capital expenditure.
2. Chatbots: Chatbots are the intermediary between the customer and banks in resolving queries. It acts as a bridge between customers and banks in responding to queries on loan assistance, term deposits, and so on. It also helps customers in their day-to-day transactions. SBI bank uses chatbots as a supporting platform to resolve customer issues.
3. Big Data analytics: Big data analytics is the process of examining and extracting insights from large and complex datasets. Big data analytics has revolutionized the banking industry by enabling banks to gain valuable insights from vast amounts of structured and unstructured data. Big data analytics has transformed the banking sector by enhancing customer experiences, mitigating risks, improving operational efficiency, and enabling data-driven decision-making. It continues to play a vital role in shaping the future of banking by unlocking valuable insights from vast data sources.
4. Artificial intelligence and cognitive technologies: AI has taken an influential role in the activities of enterprises and is reinventing the whole environment of the banking sector. By maximizing the level of mechanization and through emerging systems,

AI helps in decision-making, improves the client's involvement, and enhances operational proficiency. AI brings a planned oversight for getting value out of data. AI assists in fraud detection, customer recommendation, AI-driven virtual assistant, and productivity gains.

5. The Internet of Things (IoT): IoT refers to a network of physical devices, vehicles, appliances, and other objects embedded with sensors, software, and connectivity capabilities. These devices are capable of collecting and exchanging data over the internet. The concept behind IoT is to enable these devices to communicate and interact with each other without human intervention. The IoT has the potential to revolutionize various industries, increase efficiency, and enhance our daily lives.
6. Robotic Process Automation (RPA): RPA has gained significant traction in the banking industry due to its potential to automate repetitive and rule-based tasks, improve operational efficiency, and enhance customer experience. RPA involves the use of software robots or bots to mimic human interactions with systems and applications to perform tasks. It is applied in data entry and validation, account opening and onboarding, loan processing, customer service support, fraud detection, and risk management.
7. Blockchain: Blockchain technology has connected to provide distributed ledger. It is widely used to have follow up on the movement and distribution of Bitcoin. This activity has solved the issues related to Bitcoin by maintaining proper records of crypto transactions.

## Effects of implementation of disruptive technologies in public sector banks

1. Improves Digital Network: It enables the bank to deliver quality services by collaborating with major players who are involved in mobile payments, net banking, loan assistance, and other financial services.
2. Cloud services for main banking activities: Cloud services enable banks to rapidly build customized solutions on software applications and infrastructures that streamline banking operations. It allows the banks to manage their core banking systems providing exceptional banking and financial services to their clients.
3. Enhance security framework: The technology-driven force has more security issues such as cyber threats, data breaches, and payment hacks. In this regard, disruptive technologies provide security verifications for all banking activities to protect customer privacy.

4. Risk management and compliance practices: The major challenge to the banks is maintaining the customer database. The customer database has been created in all banking transactions, which creates security problems. The banks are securing customer data through disruptive inventions to safeguard the privacy of the customers. The banks have adopted risk supervision activities to ensure transparency, accountability, responsiveness, and auditability of various regulatory submissions and risk disclosures.
5. Implementation of advanced analytics: Banks are using investigative data analytics to examine and reduce risks associated with fraud. It also helps in reducing operating costs through the practice of various channels while delivering services to the customers.
6. Increases efficiency of banks: The public sector banks are competing with private banking through their various banking products and quality services. This operational efficiency has been increased after the implementation of disruptive innovations in the banking activity.
7. Enhance customer loyalty: The banks show interest to provide customer-centric services in order to improve the trustworthiness of clients with respect to public banks.

## Conclusion

The banking Industry is considered as a major support for economic development. However, the banks are facing few major challenges such as competition, NPA issues, financial instability, lack of technology, and many more. To overcome these issues, the government has announced Mergers and Acquisitions of major public sector banks. Along with this recent development, there is a greater need to adopt disruptive innovations to strengthen the banking sector. The utilization of emerging technologies has redesigned the growth of scheduled banks in India. The technology adoption enhances banks to improve payment systems, digitalization in operations, net banking, and other service delivery modes. This transformation has increased the accessibility of banking services according to the convenience of customers. The implementation of disruptive inventions is not much easy and more expensive too. However, these disruptive technologies offer sophisticated services to clients with a wide range of products and process modernizations. The unique characteristics and features of disruptive innovations push banks to adopt these pioneer technologies in order to protect the interest of the customers and also to survive in a competitive world. In India, there is a greater need and scope for technological improvements in the banking sector and most of the customers are not aware of the

benefits of these disruptive innovations. In this regard, the banks have to provide publicity and educate the customer to use these emerging technologies so that the banks' services can reach remote areas. The technology application in banking creates a competitive edge for the Indian scheduled banks to become stronger and improves operational efficiency.

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