INDUSTRY REVOLUTION 4.0: A STUDY OF INDIAN BANKING AND FINANCIAL SYSTEM

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Abstract:

In the context of the current global scenario, the Digital Revolution 4.0 is receiving an increasing amount of attention in the various industries and playing an important role in the different sectors around the world.This digital transformation is not only affecting the personal and social life of people but also have profound effect on the settings of their professional lives.This technological shift is taking place across a wide range of different industries as well as other sectors. The Indian Banking and Financial System is notimmune to the effects of this either. Finance field is most rapidly expanding area of digitalization. Technologies such as block chains, cloud computing, big data analytics, digital twins, machine learning, and artificial intelligence are doing amazing work and establishing remarkable new benchmarks. Thus, the primary objective of this research is to assess the contributions made by a variety of technological platforms to the expansion of the banking and financial services sector in India. To achieve the objective of the present study, the views of 100 financial experts are taken. In addition to discussing the benefits of these technologies, this article will also look at the challenges the financial sector faces in implementing them. The research is primary in nature and employs a quantitative methodology.
Keywords: Banking Sector, Financial Sector, Digitalization, Industry Revolution 4.0, Technologies.

Introduction:

The level of technology in the modern world is getting better and better every day, and it is advancing at a rapid rate. Because the only constant in the universe is change, it is essential for everyone to remain intellectually curious and continually broaden their horizons if they wish to continue existing. Not only are numerous emerging technologies, such as blockchain, the internet of things, cloud computing, machine learning and artificial intelligence, and big data analytics doing remarkable work in the technical industry, but they are also having an impact on other industries as well. These methods can provide not only instant solutions to a wide range of issues but also fresh perspectives on how the industry as a whole can be improved. In light of this, the purpose of the current study is to investigate the contribution of these technologies in the banking and financial fields. In addition, the study will concentrate on the problems and challenges associated with these technologies.

Review of Literature:

The review is ancrucial part of the analysis for the current study. It offers helpful information as well as the findings of other researchers' research that was conducted in a similar manner. The current literature review will be helpful in studying the perception and opinion of financial experts regarding the revolution of various technologies in the field of banking and finance. This study will be made possible thanks to the review of previous research. It will also be beneficial to conduct research into the level of awareness held by industry leaders regarding the digital transformation of the banking system.

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Lokanan and Sharma (2022)concluded thatmachine learning and artificial intelligence are less transparent than traditional models, but despite this, they are finding useful applications in the regulation of financial markets. In future, technologies based on machine learning may be able to reduce the negative effects of fraud on financial markets while also preventing its occurrence.

Stewart (2021) stated Cloud computing is not a new technology, but it does provide internet-based services for customers in all markets, including the government and the financial sector, as well as the health care industry. Some examples of these services include computation and storage. The protection of user data, the reduction of operational risk, and the development of trust among customers are the primary factors that stand in the way of widespread acceptance and adoption of cloud computing techniques.

Gupta (2021) conducted research on the difficulties that banks face in the digital world and how they deal with the technological revolution in order to maintain the happiness and satisfaction of their customers. According to the findings, the need for modern banks is the digitalization of their operations and the adoption of new technologies. With the assistance of these technologies, today's banks have successfully made the transition from traditional banking to modern banking, and they are doing an excellent job of it. However, there is also a risk associated with cyber vulnerabilities and security flaws. In addition, research points to the effective establishment of policies and institutions as a means of overcoming this risk.

Jadhav and Mahadeokar (2019) carried out a study in order to learn more about the prospects and difficulties associated with industry 4.0 in India. According to their findings, technological advancement is still in its infancy in India. People still do not have sufficient knowledge about the technology, which is why they are unwilling to adopt it. Most of them are not yet familiar with how to use these technologies. In addition, the adoption of new technologies will result in an increase in the cost of the products, which in turn may have an impact on the company's revenue and profits. There is also a lack of skilled workers in the workforce, which is another obstacle to implementing the technology.

According to the findings of **Damayanti (2019)**, the transformation brought about by technological advancement has had a significant impact on the financial and accounting system. Because of advancements in technology, one of the most significant changes is that conventional accounting methods are gradually giving way to more contemporary ones. Some of the technologies that are doing remarkable work in the field of accounting and financial system are big data analytics, cloud computing, and blockchain.

In the words of **Vidhyalakshmi& Kumar (2016)** Customers are currently the most important aspect of any business, including the banking sector. In order to retain customers and grow their businesses, banks and credit unions are on the lookout for more effective answers to the complex issues their clients face. Banks and other financial institutions can better accommodate their customers and meet their needs in a timely manner with the help of cloud computing technology, which provides features like a flexible and agile banking environment.

Objectives and Hypotheses:

The primary objectives of this article are to investigate the level of awareness that industry professionals have with a variety of technological platforms and to assess the contributions that these platforms have made to the growth of the banking and financial services sector in India. Additionally, this article will investigate how knowledgeable industry professionals are regarding these technologies. Considering this, the following is a list of the objectives that the research paper aims to achieve:

1. To investigate the awareness of industry revolution 4.0 among financial experts.
2. To investigate the contribution of technologies for the improvement of Banking and Financial Sector.
3. To determine the problems and challenges that are associated with the implementation of the technologies.

Hypotheses:

In consideration of the aforementioned goals, the hypotheses that will be tested in this research article are as follows:

Ho (1):The awareness levels of various financial experts do not differ significantly from one another in relation to the fourth industrial revolution.

Ha (1):The awareness levels of various financial experts are same in relation to the fourth industrial revolution.

Ho (2): There is no evidence that advances in technology have had a significant impact on the performance of Banking and Financial Sector.

Ha (2): There is evidence that advances in technology have had a significant impact on the performance of Banking and Financial Sector.

Ho (3): All the organizations face same problems and challenges that are associated with the implementation of the technologies.

Ha (3): All the organizations have its unique problems and challenges that are associated with the implementation of the technologies.

Research Methodologyfor the Present Study:

Research Design: The research design that was utilized for this study was a descriptive research design.

Period of the study: The duration of the study was two months, and it was carried out over the course of that time

Study area: The research is being carried out in the Aurangabad Region and other nearby locations.

Sampling Method: A researcher will employ a certain procedure known as a sampling method while selecting a sample from the overall population. Purposive sampling was used to select a total of one hundred different financial experts from a variety of banks and other financial institutions for the purpose of the present study.

Data Collection:

For the purpose of this study, both primary and secondary sources of information were gathered. The Questionnaire schedule was used to compile the primary data that was collected. For this reason, the researcher went to several different banks and other financial institutions whenever it was necessary to conduct an interview with a financial expert in order to learn their perspective on the revolution that has taken place in the Indian Banking and Financial System. The secondary data were gathered from various sources such as books, journals, and the internet. The time frame for gathering information was from the 20th of July to the 17th of September in 2022.

Data Analysis:

The data were analysed with the assistance of the SPSS 22.0 software. In order to conduct an analysis of the data that was gathered, the appropriate statistical methods were utilized. In this study, the frequency, mean, and standard deviation were utilized for descriptive analysis, while the Chi-square was utilized for inferential analysis.
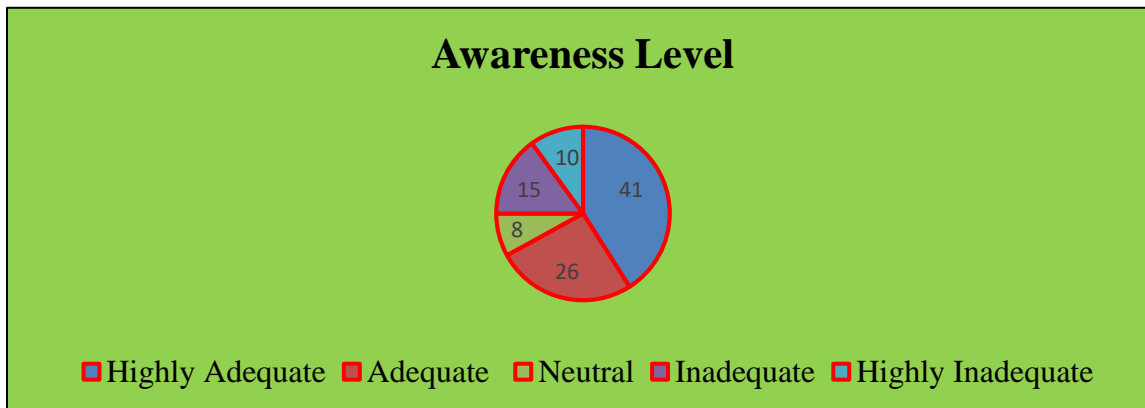
Data Analysis and Interpretation:

Ho (1): The awareness levels of various financial experts do not differ significantly from one another in relation to the fourth industrial revolution.

Table 1.1: Level of Knowledge of financial experts in relation to the fourth industrial revolution

Level of Knowledge	Frequency (Observed)	Frequency (Expected)	Residual Value	Chi-Square	P Value
Highly Adequate	41	20	21		
Adequate	26	20	6		
Neutral	08	20	-12	7.46	0.002*
Inadequate	15	20	-5		
Highly Inadequate	10	20	-10		
Total	100				

Df-4 $\chi2=7.46$ p=0.01

Awareness Level

Highly Adequate   Adequate   Neutral   Inadequate   Highly Inadequate

Results: Table 1.1 reveals the results of the present study regarding the awareness level of financial experts. Since the value of chi-square is $\chi2=7.46$ and p=0.002, which is less than 0.05, we must reject the null hypothesis and conclude that the levels of awareness of various financial experts are significantly different from one another in relation to the fourth industrial revolution. It might be because of their level of education, their designation, or the field in which they work. The training that is provided by the industry can vary from one location to the next. And it can lead to differences in employees' levels of awareness regarding various technologies.

Ho (2): There is no evidence that advances in technology have had a significant impact on the performance of Banking and Financial Sector.

Table 1.2: Contribution of technologies to improve the performance of Banking and Financial Sector

Contribution of Technologies in Banking Sector	Mean	S.D
Data on financial transactions are simple to manage	2.26	1.235
Efficient and prompt service is provided to customers.	2.56	0.949
Reduced expenditures	1.57	0.069
Reduced Need for Paperwork	1.50	0.259
Improvement in Communication	2.63	1.326
Lead to Superior Products and Services	2.37	1.187
Increased Contentment Amongst One's Clientele	2.86	1.521
Total	**100**	

Results: Table 1.2 shows the results of descriptive analysis to findings of a descriptive study, which were used to gain a better understanding of the role that technological advancements play in the improvement of the banking sector. he results indicate that according to the analysis, the statement that "Technologies helps in improving the communication and increased customer satisfaction" received the highest mean response, while the statement that "It reduces paperwork" received the lowest mean response. These findings suggest that most financial experts believe that technologies play an important role in the banking sector by improving communication, by providing better quality financial services, introducing of new products and services, and other aspects of the industry. However, the limitations of these technologies include an increase in costs, an increase in the amount of paperwork required, and a reduction in cyber security.

Ho (3): All the organizations face same problems and challenges that are associated with the implementation of the technologies.
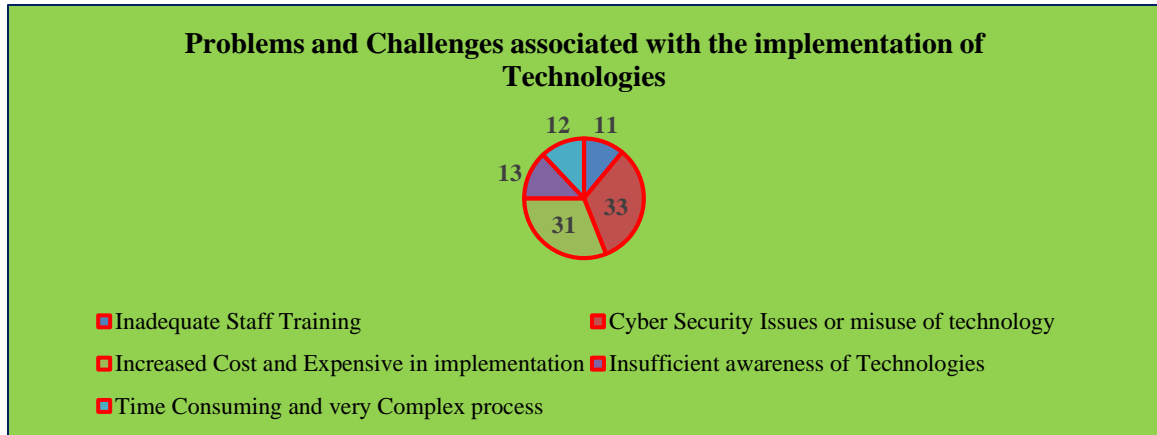
Table 1.3: Problems and Challenges associated with the implementation of Technologies

Problems and Challenges associated with the implementation of Technologies	Frequency	Frequency (Expected)	Residual Value	Chi-Square	P Value
Inadequate Staff Training	11	20	-9		
Cyber Security Issues or misuse of technology	33	20	13		
Increased Cost and Expensive in implementation	31	20	11		
Insufficient awareness of Technologies	13	20	-7	4.84	0.003*
Time Consuming and very Complex process	12	20	-8		
Total	100				

Df-4 χ^2=4.84   p=0.01

Problems and Challenges associated with the implementation of Technologies

- Inadequate Staff Training
- Cyber Security Issues or misuse of technology
- Increased Cost and Expensive in implementation
- Insufficient awareness of Technologies
- Time Consuming and very Complex process

Results: Table 1.3revealsthe results of this study concerning the issues and difficulties associated with the implementation of technologies in the banking industry. Since the value of chi-square is $\chi2=4.84$ and p=0.003, which is less than 0.05, we must reject the null hypothesis and conclude that all the organizations face different problems and challenges that are associated with the implementation of the technologies. Each of the banks has its own unique set of objectives and functions, and in order to achieve these objectives, the banks may adhere to a variety of policies and regulations. They are different in terms of capital, nature, size, and cultural shift, as well as changing business models, and they are also failing to provide adequate training to staff in order to transition towards new technologies. Because of all of these factors, it's possible that they'll have to deal with a variety of obstacles during the process of implementing.

Findings and Discussion:
The present study found that the financial experts who live in the Aurangabad district have sufficient knowledge about the revolution in the banking industry and are also aware of the positive and negative effects of this revolution. The various technologies not only have a significant impact on the way banks do business, but they also bring this industry a great deal of success in the form of brand-new products and services, a reduction in the amount of time spent on paperwork and the amount of paper work required, and an improved ability to manage all financial transactions in an efficient manner. No doubt the digital revolution 4.0 is playing a significant role to boost up the banking There is no doubt that the digital revolution 4.0 is playing a significant role in helping to boost the banking industry; however, despite this, the banking industry is still facing some challenges associated with the implementation of these technologies. Cyber security, costly implementation, and insufficient staff training are a few of the issues that need to be addressed.

Limitations of the Study:

The sample used for the present study may not be justifiable to generalize the findings to all the financial experts regarding revolution in banking sector. The present study isbased on purposive sampling which is non-probability in nature thus the results can't be generalise to the whole population of financial experts living in Aurangabad district as all the banks and financial institutions were not covered during the present study.

Conclusion:

The study identified that emerging technologies such as blockchain, cloud computing, machine learning, and artificial intelligence are making significant strides these days and are playing a significant part in the revolution of banking and the financial system. The performance of the banking sectors is being significantly impacted as a result of these technologies. The present study revealed that the vast majority of financial advisors have significant knowledge regarding technological advancements and are aware of the significance of these advancements in their respective professional fields. These numerous technological advancements are producing excellent results in the realm of banking and financial systems, enhancing the efficiency of businesses while simultaneously lowering their operational expenses. These technologies are assisting businesses in meeting the demands of their clients by enabling them to deliver services that are both more efficient and more reliable. The study also came to the conclusion that industries are also facing some challenges that are associated with the implementation of the technologies. These challenges include cyber security concerns, inadequate staff training, high costs associated with implementation, improper use of the technologies, and a lack of awareness among customers regarding these technologies. In addition, businesses have a responsibility to offer training to their employees so that workers can become familiar with emerging technologies and contribute to the development of those industries by making effective use of those technologies. In addition to this, they have an obligation to supply the appropriate information to their customers and guarantee their safety in order for the customers to have faith in the progression of technology as well as Industry.

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