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A STUDY ON EFFECT OF ARTIFICIAL INTELLIGENCE IN OPERATIONS OF BANKS AND ITS IMPACT ON CONSUMER SATISFACTION

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ABSTRACT

AI is the future of banking because it can use advanced data analytics to prevent fraudulent transactions and increase regulatory compliance. Anti-money-laundering tasks that used to take hours or days can now be completed in seconds by using an AI system. Also, with the help of AI, financial institutions can process massive amounts of data extremely quickly, opening up countless opportunities for discovery and insight. Artificial intelligence (AI) bots, digital payment advisors, and biometric fraud detection methods all contribute to better service for more people. There will be more money coming in, less expenses, and more money coming out. Banks can better serve their customers by using AI to analyse their spending habits, create personalised investment plans, and help their clients with budgeting. Customers also benefit from the bank's proactive communication, as they are alerted to any changes in their account balances and given tips on how to better manage their money. So in this study author analysis the level of satisfaction of "public and private sector banks" customers.

Keywords: *Artificial Intelligence, Customer Satisfaction, Banks.*

Introduction

The foundation of a well-functioning economy is a well-functioning banking system. If a country's financial system is flexible and able to adapt to new technologies and other external and internal obstacles, the economy can run smoothly and without much difficulty. The relevance and role of IT cannot be overstated in this endeavour. The advancement of technology has accelerated transformation, resulting in increased delivery of products and services. There's little doubt that information technology is changing business as we know it. In order to make better decisions and enhance efficiency, it has closed the coverage and reach gaps inside the system. Government banks, private sector banks, and foreign banks can all improve customer satisfaction by implementing a variety of innovative processes, products, and services.

The banking sector is undergoing rapid transformation. Banks must embrace technology improvements if they want to keep up with the industry's constant evolution. Artificial intelligence (AI) is an example of this. An early adopter in banking is artificial intelligence. The benefits of implementing artificial intelligence include fraud detection, improved decision-making, improved customer service, and so on, whereas the drawbacks include a lack of data privacy, employee reluctance, and job losses, among other things.. Banks must first remove obstacles before they can fully reap the benefits of artificial intelligence **(Guo, & Liang, 2016).**

Because of today's specific conditions, digital transformation is a need. Transforming banks and historical business practices while preserving the current system is a monumental undertaking. Artificial intelligence and machine learning techniques can be used by corporations to collaborate with other FinTech organisations. Paper-based and labor-intensive operations can be automated to increase efficiency while reducing costs, resulting in higher production and profitability, thanks to the rise of artificial intelligence in banking.

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Machine learning, which is sometimes known as artificial intelligence, is a key component of artificial intelligence. Both sensory and visual input can be employed in computer vision to tackle certain sub-problems in the field. Learning without supervision involves the ability to recognize patterns in input sources, whereas learning with sufficient supervision requires categorization and numerical regression of input data. Robotics and artificial intelligence are both essential subjects to discuss. It is necessary for robots to have intelligence in order to do tasks like handling and navigating items as well as sub problems like localization, motion planning and mapping **(Alyammahi, 2018).**

Advantages of Artificial Intelligence in Banking

As a result of earlier contacts, AI gains knowledge about clients and their patterns. Personalization and intuitive interactions allow banks to personalize financial products and services to their customers' specific needs while fostering long-term customer relationships.

Artificial intelligence and machine learning will continue to have a significant impact on the banking industry. It's a given that banks and their clients will both benefit from them in the long run. A few examples of how these new technologies can be put to use include:

- **Operating Budget Reduction**

Paperwork is unavoidable in the banking sector. Banking workers deal with a lot of paperwork on a daily basis. Human mistake and higher operating costs can be a result of labor-intensive and repetitive processes. This can have an adverse effect on profitability. This can be done with the help of artificial intelligence (AI). By using this technology, the risk of human error and time wastage is avoided. Banks might save $447 billion by 2023 if they install an AI banking system, according to Business Insider. ML, automation tools, and AI assistants can be used to automate many aspects of human work in banks, for example. Artificial intelligence (AI) offers banking organizations the opportunity to increase their service offerings while simultaneously lowering operating costs and generating new revenue streams.

- **Providing better Quality of Service**

Financial organizations have been able to alter their clients' impressions of their brand thanks to the influence of AI. Customer satisfaction has a direct impact on a company's success and earnings, and the banking industry is no different. Using artificial intelligence (AI) chatbots and voice assistants, banks can now serve their customers around the clock, no matter where they are in the world. In addition, banks may better serve their clients' demands by using AI and machine learning to analyse their digital footprint and payment history for faster and more granular analysis. For the bank to continue growing its current customer base, AI can be used to personalize its products to new groups of customers. Because of this, AI can help financial institutions to provide their consumers with the services they need at the right moment.

Many virtual assistants powered by artificial intelligence (AI), such as Alexa, Siri, and Cortana, conduct foresight investigations in order to find the best ways to work with consumers and make it easier to withdraw money from the bank. AI-powered banking bots allow customers to connect with them by sending messages or by touching the orders they have placed on their mobile devices.

- **Convenient And Simple Transaction**

To make things easier and more effective, modern technology has collaborated with regulatory advocates to make policy frameworks more accessible and effective. Banks are using modern technology to provide competency to their front and back offices, and to engage with the financial task so that transactions may be completed quickly. AI-powered technology provides personalized services to customers and quickly solves their problems. Adopting digital banking technologies can accelerate and simplify the process of delivering services (Vijai & Nivetha, 2020).

- **Standardized Cross-Border Transactions**

E-wallets have made it easier for people throughout the world to pay for goods and services by allowing them to move money from one country to another without incurring high fees or lengthy delays. Loan and credit score information, investment advice, all statements, and client engagement are all better served by digitization (Vijai & Nivetha, 2020).

- **Boosts Regulatory Adherence**

The rise of artificial intelligence is an often-neglected side effect of financial technology. In terms of global regulation, banking is towards the top. Banks must comply to strict rules, regulations, and standards in order to avoid, detect, and correct any deviations, illegalities, or nonconformities in their

operations. A bank's compliance processes and workflows must also be updated on a regular basis in order to remain compliant. AI, on the other hand, can be used by banks to simplify, automate, and streamline regulatory compliance procedures and workflows. With AI-powered solutions, banks can overcome today's significant regulatory compliance issues.

- **Increase Revenue**

Technology in the banking business has helped boost revenue by enhancing employee productivity. With the help of robotics process automation, AI can continue to be used in banks to increase productivity and speed up the process (Kochhar et al., 2019). AI can help banks enhance profitability in two ways: first, by reducing the demand for low-skilled labour and increasing the capabilities of the rest of the bank staff. As a second benefit, AI helps banks develop new products and deliver personalized services to their clients (Kaya, 2019).

- **Loan Selection and Credit Management**

A better understanding of the risks and dangers linked with each individual means that banks can make more secure decisions and less people default on their loans. Decisions on credit service and lending have been based on verifiable financial evaluations, records, and other previous procedures. It's not unusual for banks to lose money because of misinformation in this field. Personal safety, morality, and legality are at stake for all clients when AI and machine learning are employed to do predictive investigations and a credit score is used.

Using these two technologies in the banking sector, it may be possible to extend credit to those who truly need it. Some of these new businesses may inspire others to enter the market with less caution if some of them succeed.

While cutting costs for their customers is important, banks must also use AI and machine learning technologies so that they can provide their clients with better service, reduce risks, and increase growth opportunities for Rajasthan by providing a higher level of personalized service, reducing risks, and increasing opportunities for growth. Also, the government of Rajasthan is implementing numerous artificial intelligence-based digital initiatives in order to develop the state into a digital powerhouse. The banking business in Rajasthan will become even more dependent on cutting-edge technology like artificial intelligence (AI) in the future as the world rapidly transforms into a digital world. It is because of this that the banking industry in Rajasthan is becoming more flexible and adaptable in order to meet the ever-increasing needs of today's digital world, thanks in large part to AI.

Review of Literature

Uppal (2011) argued that banking services have been revolutionized by information technology in the banking industry. It saves money as well as time. Although productivity and profitability in the banking industry have improved since the advent of e-banking, Indian banks are still less profitable than their foreign counterparts. The most successful organizations will have future thinkers who are able to anticipate the future and constantly question the presumption that everything will go as planned.

E-impact banking's on traditional banking services was the focus of a study conducted by **Vyas (2012),** who wrote a paper titled "Impact of E-Banking on Traditional Banking Services". The author has obtained and analyzed data from secondary sources. Finally, e-banking has a number of advantages over traditional banking and will aid banks in minimizing the dangers that were identified.

The purpose of a study by **Jagtap(2018)** entitled "The Impact of Digitalization on Indian Banking Sector" was to examine the effects of digitalization on the Indian banking industry in India. Secondary data was used in the study's analysis. Customers' interactions with their finances are being revolutionized by a new wave of technology, and people are taking advantage of the digitalization in banking more and more. As a result of digitalization, Indian banks are now not only attracting more customers, but also providing top-notch services.

As **Srivastav et al (2016)** found, internet banking provides a wide range of services, including account balancing inquiries, inter-account transfer payments, bill payments, requests for a chequebook, and other banking operations that don't require customers to physically visit a branch for these services. The most difficult issues for online banking are trust, security, and safety.

Mukherjee, (2015), conducted a study on “Emerging Technological Trends in Indian Banking Sector”. Technology trends in banking will be presented in this study, and the benefits of using technology in Indian banks will also be examined. Secondary data, articles and papers published in high-quality journals, magazines, and websites, are used in the research. Banks will only be able to thrive in

the electronic economy if they make effective use of technology. Indian banks can only make technological progress in the banking sector successful by considering and implementing a fundamental, flexible, and modular strategy.

A study on the "Impact of internet banking on customer" by **Singh and Kumar (2014),** aims to examine and analyse the use of internet banking by consumers and the non-use of internet banking by non-consumers. It was decided to use a convenience sampling method to gather the data for this investigation. About 55% of those with computer and internet knowledge use e-banking services, according to the research. Non-consumers are kept at a distance by a lack of computer literacy.

Objectives of the Study

- To analysis of level of satisfaction of “public and private sector banks” customers.

Research Methodology

A descriptive and analytic approach is used in the study. There is a mix of primary and secondary data used in the study. Jodhpur is a major economic hub with a rapidly expanding population, a burgeoning industrial sector, and thriving service and financial industries. Therefore, Jodhpur city is selected for the focus study as it is the representative of cross section of the society.

The questionnaire has been designed for customers to determine the customer satisfaction level in terms of technology and service quality in the banking sector, has collected through SERVQUAL dimensions concept and to analyze the customers perceptions on usage & problems of the major technological services and with a sample size of 500.

Data Analysis

Table 1: Demographic Profile of Customers

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	500	1	2	1.41	.493
Age	500	1	6	2.93	1.549
Education	500	1	6	4.08	.974
Marital Status	500	1	3	1.91	.415
Profession	500	1	7	3.13	1.653
Monthly Income	500	1	9	3.85	2.234
Locality	500	1	2	1.53	.499
Valid N (listwise)	500				

Descriptive statistics for thepersonal profile of respondents are given above. “Mean value for education is recorded as 4.08 which is the highest amongst all variables. Lowest mean value is for demographic variable Gender”.

Analysis of Level of Satisfaction of “Public and Private Sector Banks” Customers

To find the significant difference in the satisfaction level of customers in “public and private sector banks” related to digital banking services following hypothesis is framed;

H_{01}: “There is no significant difference in the satisfaction level of customers in public and private sector banks related to digital banking services” such as;

-Satisfaction on Technology usage

-Internet banking Services

-Telephone Banking Services

-Mobile Banking services

H_{A1}: "There is a significant difference in the satisfaction level of customers in public and private sector banks related to digital banking services" such as ….

Table 2: Descriptive Table of Level of Satisfaction of Public and Private Banks Customers

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Lower Bound	95% Upper Bound	Minimum	Maximum
Satisfaction on Technology usage	Public sector bank	283	3.28	1.303	0.077	3.12	3.43	1	5
	Private sector bank	217	3.11	1.267	0.086	2.94	3.28	1	5
	Total	500	3.2	1.289	0.058	3.09	3.32	1	5
Internet banking Services	Public sector bank	283	3.28	1.278	0.076	3.13	3.43	1	5
	Private sector bank	217	3.14	1.31	0.089	2.97	3.32	1	5
	Total	500	3.22	1.292	0.058	3.1	3.33	1	5
Mobile Banking services	Public sector bank	283	3.27	1.336	0.079	3.11	3.42	1	5
	Private sector bank	217	3.04	1.205	0.082	2.88	3.2	1	5
	Total	500	3.17	1.284	0.057	3.05	3.28	1	5

Above table display the descriptive statistics data like mean, standard deviation and number of respondents participated for level of satisfaction of public and private banks customers. From the data it can eb seen that highest mean is for variable "internet banking service". Among "public and private sector banks" the mean value of public sector banks is high.

Table 3: Test of Homogeneity of Variances Table of Level of Satisfaction of Public and Private Banks Customers

Test of Homogeneity of Variances				
	Levene Statistic	df1	df2	Sig.
Satisfaction on Technology usage	.248	1	498	.619
Internet banking Services	.222	1	498	.638
Mobile Banking services	9.816	1	498	.002

Table given above display the results of test of homogeneity of variances to check the established hypothesis. From the test results it can be seen that the sig value for Satisfaction on Technology usage and Internet banking Services is greater than .05 and therefore for these two variables the results of the test are as follows;

"There is no significant difference in the satisfaction level of customers in public and private sector banks related to digital banking services" (Satisfaction on Technology usage).

"There is no significant difference in the satisfaction level of customers in public and private sector banks related to digital banking services" (Internet banking Services).

This can also be interpreted as satisfaction level of customer for both the banks remains same for technology usage and internet banking services.

Further for variable mobile banking services it can eb seen that sig value is less than .05 ad therefore here it can eb stated that "There is a significant difference in the satisfaction level of customers in public and private sector banks related to digital banking services mobile banking service". This can also be interpreted as mobile banking brings different level of satisfaction for "public and private sector banks" customers.

Table 4: ANOVA Table of Level of Satisfaction of Public and Private Banks Customers

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction on Technology usage	Between Groups	3.534	1	3.534	2.133	.145
	Within Groups	825.064	498	1.657		
	Total	828.598	499			
Internet banking Services	Between Groups	2.165	1	2.165	1.297	.255
	Within Groups	831.073	498	1.669		
	Total	833.238	499			
Mobile Banking services	Between Groups	6.393	1	6.393	3.898	.009
	Within Groups	816.829	498	1.640		
	Total	823.222	499			

Table given above display the ANOVA test results for testing the established hypothesis. The results of ANOVA test confirm the results obtained from the Test of Homogeneity of Variances.

Conclusion

The banking sector will experience long-term effects from the growing usage of artificial intelligence (AI). Artificial intelligence (AI) is being steadily incorporated into the banking sector to enhance financial services. People are increasingly likely to utilise the internet to manage their accounts and make transactions while social exclusion and quarantine continue. Customer service is a crucial task because customers are a company's biggest source of goodwill. The study's findings make it obvious that employees are more likely to support the use of AI in banking. According to the study, employees believe that the implementation of artificial intelligence services is positively and significantly related to customer service.

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