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RESEARCH ARTICLE

IMPACT OF ARTIFICIAL INTELLIGENCE IN BANKING SECTOR

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Abstract

In every economy, there are different sectors and each sector is responsible for upgrading of economy. Banking Sector is an important sector of any economy. It is the strongest pillar of any economy from ancient time. This Sector is having many dynamics and changes. Application of advance technology according to ever changing world economy is need of an hour. Industrial Revolution 4.0 brings drastic change in the banking sector. It is not limited to use only computer in the banks for transactions but customers are also using net banking , mobile banking for day to day transactions. At the same time one step more ahead that use of Artificial Intelligence, Robotics, Block chain system in banking are the climax of technology. Artificial intelligence is stated to be intelligence by machine. Artificial intelligence is necessary for banking sector to be competition in the world. A tech-savvy customer expects advanced technologies in their day to day transactions from banks to deliver seamless experiences. To meet such expectations and to be competitive in ever changing (dynamic) world, bank need to have expansion and adaption regarding activities for sustaining the customers and acquiring new customer especially young customers. Artificial intelligence is last developing technology across the world.

Objectives:-

1. To understand meaning and reasons for artificial intelligence.
2. To study the impact of artificial intelligence in banking industry/sector.
3. How influencing the artificial intelligence for human resource working in banking sector in world in India.

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Introduction:-

Banking Sector is one of the strongest pillar of any economy. Development of any economy mainly depends upon banks and financial institution. Though banking sector has long tradition but gradually it turns into modern era with technology and it is one of the major adaptors of modern scientific tools and techniques. In India, bank has long back history. However banks always changing its working culture according to competition. Adoption of technology is inevitable in modern era as customers are ever changing according to age, fashion tests. Artificial Intelligence is now becoming more wide spread in current market. In banks, Artificial Intelligence is using in a very innovative way which results in saving time and money. Artificial intelligence includes machine learning and profound learning which helps to reduce the errors. Banking sector is creating value in the technology driven world. Artificial intelligence is also called, Machine intelligence or intelligence exhibited by machine contrary to the usual

intelligence displayed by people. Normally artificial intelligence means, development of computer systems able to perform tasks normally requiring human intelligence, such as usual perception, speech recognition, decision making and translation between languages. It is ability of a computer program or a machine to think and learn. It is a field, where machines become increasingly capable to do mental activities which require intelligence.

In the year 1955, John Accorothy defined artificial intelligence as – “It is the program which mimics human cognition”. An intelligence machine is a flexible which perceives its environment and takes actions to maximize its chance of success at some goals or objective.

Artificial intelligence is probably the most important thing humanity has ever worked on as said by Google CEO SundarPichai”. Artificial intelligence is gradually come up with advance applicability in every sector of economy.

In the context of banking sector, Accenture defines artificial intelligence,” Computer systems that can sense comprehend, act and learn. A system can perceives the world around it, analyses and understand the information it receives take actions based on that understanding and improve its performance by learning from what happened, and by enabling machines to interact more naturally with their environment with people and with data – the technology can extent the capabilities both humans and machines for beyond what each can do on their own.”

Literature Review:-

1. Dr. C. Vijai conclude in his research paper that artificial intelligence offers many benefits to banking sector, Application of artificial intelligence has potential to create more efficient banking business throughout the world. Author took only positive impact of artificial intelligence on banking sector.
2. Ahmed Ghandor said in his research paper that , application of artificial intelligence trigger the major digital interception which has affected the entire banking sector. There are many pitfalls that have to be considered while studying about opportunities and positive impact of artificial intelligence.
3. Dr. K. Suresh Kumar and Aishwaryalakshmi, S. Akalya A concluded in research paper that banks should explore the implementation of Artificial intelligence technology in transforming the way customers are assisted. It is helpful in the country like India where anyone who wants to avoid long queues at banks. Artificial intelligence is to provide personalized and high quality customer satisfaction along with efficient and time saving services.
4. Dr. NavleenKaur and other Co-authors said in research paper that, current application of artificial intelligence in banking industry has changed in India. Author explained how artificial intelligence becomes the revolutionary symbol in banking and its impact on human power also.
5. Dr. V.Padmanabh and V. PrincyMetilda explained positive and negative impacts of artificial intelligence on banking sector. According to the author artificial intelligence is gradually proliferating the banking industry to reinforce financial services. In such pandemic situation people are more likely to take the digital way to stay safe while doing activities related to banks. Artificial intelligence and its use are continuously changing. It needs to learn and grow as it has practical aspect and every user must be smart for enjoying the benefit of artificial intelligence.

Evolution of Artificial Intelligence:-

John Mccarthy was known as father of artificial intelligence, while we have only recently experienced the implementation of artificial intelligence but history dates back to the 1950-1955. Artificial Intelligence speed only picked up after 1990 in the country like India but that was not much rapid but after 2010, speed drastically changes and pick up.

There are three major components used in typical application of AI that are Speech Recognition, Computer vision, Natural Language Processing. Artificial intelligence successfully understands the human speech. According to current system of classification, there are four primary types of artificial intelligence.

1. Reactive
2. Limited Memory
3. Theory of Minds
4. Self-aware

Artificial intelligence is the theory but perform speech recognition, making usual perception, decision making. It contrasts human beings natural intelligence which humans and animals naturally show.

In most of the developing economies, artificial intelligence more over common not only at work place but even at home also. Artificial intelligence has become major factor in business competitiveness. Artificial intelligence also assisted human beings living with disabilities. Voice assistance is the blessing for those who are visually impaired. It refers to the simulation of human intelligence in a machine that is programmed to think like human beings.

Artificial intelligence in banking sector –Basically this partial is based on focus on impact of uses of artificial intelligence in banking sector. There are pros and cons of using the artificial intelligence in banking sector. Banking sector is one of the strongest pillars of any economy. It is considered as life blood of development of economy. Banking sector has long back history having main function of bank that is lending of money, accepting of deposits, but modern era and modern customer expects much more from banks. Always tradition banks competing with techno-savvy players and moving to adopt new advance technologies like artificial intelligence.

Some reasons for adoption of Artificial intelligence in banking sector:-

1. Immense competition in banking sector
2. For improvement in operational efficiency.
3. To reduce the fraud risk.
4. To augment human work though software robotics.
5. To manage large volume of data in very small space.
6. To visualize extension of human function with the use of robotics tools.
7. For building functional efficiency.

Artificial intelligence is applied now in various sector of economy. In the country like India use of artificial intelligence starts from 1990. There was range of improvements in the way of communications customer supports recruiting and asset management. Artificial intelligence is the powered system for banking sector in India which is essential to compete at international level. Artificial intelligence can go through massive amounts of data and identify pattern that might include human observer. One area where this capacity is particularly relevant is in fraud prevention artificial intelligence and machine learning solutions are deployed by many financial service providers to detect fraud in real time. There are positive and negative side of artificial intelligence. Some positive impacts are discuss -

1. **Reduction in operational Costs** – Though banking industry having large digital operation, still it is riddled with human based processes which required paper work also. This technology performed tasks like human and eliminate much of the time intensive and error-prone work. AI can handle increasingly wide range of banking workflows which are traditionally handle by human beings.
2. **Improve Customer service** – Due to artificial intelligence technologies, customers are happy as long queues are vanish as machine or chat bots, robots are available 24/7. In addition to this, customer service inquiries and conversations about individual transaction, banks are getting better by using chatbots.
3. **Improved fraud detection and regulatory compliance** – Machine can detect fraud very superiorly as compare to human beings. Regulatory compliance in banking sector is on the highest point. Bank must comply regulations of government central bank of country, which create huge cost, so bank can use. Artificial intelligence as a virtual assistant to monitor transaction to keep eyes opens towards customer behaviours, audit of various sections. AI based systems helps banks practice which is proactive regulatory compliance with minimization of risk of fraud.
4. **Decision Making** – Bank often need to know credit score, creditability of customers while sanctioning of loans with the help of available data of customers. Artificial intelligence based loan decision systems and machine learning algorithms can took at credit score, creditworthiness of customers. The biggest vital part is decision through using this technology is free form way basis which generally human beings have.
5. **Drivers for investment process** – Artificial intelligence gives smart systems and decisions about proper investment options. Many financial institutions and banks are using robo-advisors to help customers with portfolio management. It provides quality advice according to overall customer's requirement and aim of investments.

Applications of Artificial Intelligence in Banking:-

1. Customer Service Engagement (Chat bot)
2. Rob advice
3. General purpose / Predictive Analysis
4. Cyber Security

5. Credit Scoring

Artificial intelligence technology is to improve banking service and in fact it is already happening. This is in banking could give response to millions of bank employee with smart lines of code that can fully automatic with their jobs in near future. Traditionally bank needs support centres where issues conflicts solved but banking artificial intelligence assistant will start bank needs less support centres. As usual some hurdles and negative side of implementation of artificial intelligence is unemployment, high cost, decentralisation power, risky factors and replacement of workforce.

1. **High cost**–Building of system, implementation and maintenance of AI requires high costs as it requires complex, advance machine and software program. It requires regular updates and maintenance to meet the needs of customers and technology changes in every day.
2. **Bad calls** – Artificial intelligence cannot make any judgmental calls or according to situation. It cannot change once software program is installed. It is working same as it is in different situations. It may cause irrational behaviour.
3. **Unemployment**–Replacement of workforce with machines can lead to wide reaching unemployment. People will highly dependent on machine and lose their creative power. Artificial intelligence can effectively increase the unemployment rate.
4. **Risky Factors**–Artificial intelligence can control by few where as it has large volume of data. It carries the risk and takes control away from humans while dehumanization actions in several ways. It delivers wrong hands can turn out to be a serious threat to humankind. Machine cannot think like human beings.

Artificial Intelligence used by Indian Banking:-

SBI – State Bank of India is the largest public sector banking service provider in the country. To deliver effective services, SBI intelligent assistant and smart chat assistant is equipped to handle 1000 enquiries per second.

HDFC – HDFC bank uses chat bot called ‘Eva’ able to solve million customer problem and give them better service.

ICICI – ICICI bank is a leading privatesector bank and it has applied software, robotics in 200 business processes across diverse function of the company. Robotics handles nearly 2 million transactions daily.

Bank of Baroda – Leading public sector bank uses AI robot, Digital labs. It has a chat bot also and from 2018 it has analytics centre of excellence.

Andhra Bank –Bank uses numerous satellite offices in the country. It has AI assistant to address customer queries immediately and effectively. This AI also integrated with core banking servers.

Kotak Mahindra Bank –Bank has smart AI, chat bot and it has billing voice bot and also banks phone, banking helpline will augment the traditional interactive voice response.

There are some top Indian banks which are used artificial intelligence, however first banking robot which was launched by City Union Bank named “Laxmi”.

Artificial intelligence which triggered a major digital disruption affected entire banking sector in 21st century. Ithas the capacity to help banking institution to innovate make more informed decision to solve problems.

Actually every advance technology has its own pros and cons. Artificial intelligence is also not exception for that in the country like India where large population is habitual to go into the bank for any transaction. Adoption of all these things is quite difficult due to psychological, technical barriers. Use of AI leads to unemployment problem in India where large human resource are available, but another side of coin is jobs will be available but banks need technical staff more and more in nearest future. Job opening is for digital professionals, designers, and programmer. This can be called transformation of jobs. One more thing is that for using such advance technology like artificial intelligence, robotics and chat bots. Customers are needed to have knowledge to use such technologies. As the record of literacy rate, sometimes it seems very hard in country like India. Historical manual banking slowly converts paperless banking through digitalization with the introduction of artificial intelligence in banking sector. Indian banks can compete at international level. Artificial intelligence is gradually proliferating the banking industry to reinforce financial services. Due to digitalization, bank clerks are losing their jobs. Indian Banking industry has

been witnessing a slow transition from people driven to machine driven, for this transition human resource should adopt all necessary dynamic changes effectively and efficiently.

Resources:-

1. www.livemint.com
2. www.analyticsinsight.com
3. www.simplifai.com
4. www.wikipedia.com
5. www.ibesintelligence.com
6. www.theuxda.com
7. www.economicstimes.com
8. www.teachtarget.com
9. Various scholarly articles from different Journals.