SPET Research Journal
of Social Science

(Peer Reviwed Bi-Annual Research Journal)

⑪

EDITORIAL POLICY

The Research Journal endeavors to promote and disseminate knowledge in the complex multi-disciplinary field. The journal encourages theoretical and empirical research papers and articles of relevance to both academicians and practitioners. In addition the journal invites manuscripts of original, empirical and conceptual papers covering application of theory to real life economic and Social activities, where the findings would be of interest to researchers, executives, academicians and students.

The Research Journal of Social Sciences publishes articles from areas such as Economics, Philosophy, History and Sociology etc. The views expressed in this publication are purely personal judgements of the authors and do not reflect the views of Research Journal of Social Science. All efforts are made to ensure that the published information is correct. Research Journal of Social Sciences is not responsible for any errors caused due to oversight or otherwise.

Guidelines for Authors : The manuscripts should be typed in double-space in 12-point font on A-4 size papers with 1.00 inch margin on all sides. The cover page should contain title of the article, author's name, designation, contact address, phone and e-mail address. Also, a non-mathematical abstract of only one page along with appropriate keywords should be submitted along with the manuscript. Graphs and charts prepared in MS Office (Word/Excel Format) or equivalent format are prefarred to material prepared in any other format or jpg. All articles should be accompanied by an astract (100- 150 words only) The article should also include : (i) the name(s) of the author(s), (ii) their professional affiliations, (iii) postal address and (iv) phone numbers and e-mail addresses. Articles sent should be complete in all respects, including references, foot-notes etc. Sources for all table, graphs, figures and maps should be provided, (where applicable). Contributors to SPET Research Journal of Social Sciences are requested of the copyright Act and the Rules made there under as regards the material used in the articles or their sources and / or of the computer software used by them. The journal is not responsible for any violations or lapses, on the part of the contributors. All articles submitted for consideration of publication in the journal would be subjected the Journals refereeing system. The journal reserves its right to make stylistic changes or other editorial changes in the article(s) submitted and accepted for publication. Journal neither charges any processing fee nor pays any honorarium to author. Unaccepted papers are not returned.

ABOUT THE COLLEGE

The College started way back in 1969, with a view to imparting value based education the college came into being through the generous donation by Late Shri Naranbhai S Patel (Khanpur). Under the dedicated direction of the Principal Dr. Mohan Patel, today the college has more than 25 graduate and post graduate courses, in addition to the affiliation with Shri Somnath Sanskrit University and Shri Baba Saheb Ambedkar Open University. The college leaves no stone unturned in fulfilling the mission of imparting education marked by excellence toits students through effective and efficient teaching- learning practices. The college is duly accredited by NAAC and has been awarded the status of "College with potential for excellence" by the UGC.

MOTTO
" Nation building through character building."

MISSION

To inculcate spiritual and ethical values among the students imparting education merging knowledge and Wisdom so that those who pass out of the portals of this institution live as nature, Free-thinking and positive citizens with an all round personality development.

VISION

To ensure a very high level of academic excellence in teaching-learning and research by providing best opportunities infrastructure and pleasant ambience to shape impressionable young and vibrant minds dedicated to the welfare of the society.

COURSES WE OFFER

Bachelor of Arts
Hindi, Gujarati, English, Sanskrit, Economics, Sociology, History

Master of Arts
Economics, Hindi, Gujarati, English, Journalism and Mass Communication

Doctor of Philoshophy
Hindi, Gujarati, Economics, Sociology

UGC Sponsored Innovative Programme
M. A. (Gujarati) Folk and Indigenous Study

Community College and Bachelor of Vocation
- Hospitality and Tourism / Retail Management
- Photography and Animation
- Journalism and Mass Communication
- Theater and Stage Craft

Professional Courses
- Bachelor of Social Work (BSW)
- Master of Social Work (MSW) +
- Master of Public Administration (MPA) +
- Master of Human Resource Management (MHRM)

Other Courses Sponsored by UGC
- Certificate in NGO Management
- Certificate in Communication Journalism and Public Administration
- Certificate in Human Rights
- PG. Diploma in Human Rights
- Advanced Diploma in Counselling
- Diploma in Business Process Outsourcing
- Diploma in Entrepreneurship

Shree Somnath Sanskrit University, Somnath
Sanskrit - M.A., Diploma

Prof. Alaknanda Patel (Conference President - 2012)

Prof. Alaknanda Patel visiting professor at Centre for Development Alternatives, Ahmedabad, has studied for her masters in Economics at Banaras University, Varanasi and Harvard University, U.S.A. Apart from Academic qualification training in classical music under Ustads Nisar Hussain Khan and Hafeez Ahmed Khan.

The major areas of her interest are Cultural diversity and Conflict is an area of special interest, major work is generally on Economics of Arts and History of Classical Music. She has written a number of books and published many research papers in national and international journals. One of the recent compiled and edited "The Collected Works of Prof. A.K. Dasgupta in three volumes, Publisher, Oxford University Press, Delhi. As a classical musician, she has been associated with Sangeet Research Academy, Kolkata and National Centre of Performing Arts, Mumbai and Fondazione Eni Enrico Mattei (FEEM) since 1995 to 2003. She has been invited as a Visiting Fellow to Indira Gandhi Institute for Development Research, Mumbai. She is also a member of the Development of Environmental Economics (SANDEE) since its inception in 1998 to 2003. She has written a number of books and published many research papers, articles in national and international journals. She South Asian Network attended General Meeting in Lieven, Bratislava, Istanbul and the SUS.DIV/ IMISCOE Conference at Stockholm.

We value her publications like Fairs and Festivals: Diversity in Cultural Life, Music in Public Space: Gujarat - a Case Study, Cultural Diversity and Conflict in Multicultural Cities.

We are proud to honour her for her life contribution and dedication towards the society and the country. Her efforts are inevitable and remarkable for the upliftment of educational fraternity.

Sardar Patel Education Trust takes the opportunity to felicitate her on the auspicious occasion of 42nd Annual Conference of Gujarat Economic Association for her dedication towards the society.

Artificial Intelligence (AI): Emerging Trends in Banking Sector

Dr. Pareshkumar U. Mordhara[*]

Abstract

Smart use of technology is becoming an integral part of the success in today's business world Today, in the era of digitalization where technology is driving change in almost every industry, banking sector is now becoming smart banks. Banking services are becoming more effective by using smart phones, automation to improve operations, cloud computing to collaborate, data analysis to extract insights and so on. Artificial Intelligence is the technology of present digital world. It is is getting superior and smarter day by day. This technology work along with other trends like big data analytics, voice interfaces, RPA, etc. Banking sector is also adopting AI in various aspects of banking activities. Adoption of AI has benefitted a lot to banking sector like decrease in costs of operating and managing banking activities leading to increase in revenue and performance. According to Business Insider Intelligence report, the average estimated cost savings for banks using AI will be around $447 billion by 2023. (https://www.businessinsider.in/) AI helps banks to serve customers better and they can access 24/7 any banking operations.AI also helps banks to make more effective lending decisions and better risk management. This paper is about use of AI in banking sector and its impact and challenges.

Keyword: *Artificial Intelligence, Banking Sector, Smart Banks, Banking Technology*

Introduction

Technological advancements are ongoing to weight the future of banking around the world. In the present digital age, digital banking industries have become more technology-driven. It is changing every facet of business sector and our day to day life use of Artificial Intelligence in banks and financial institutions is transforming the entire banking industry. There is increase in demand for a digital banking from new generation. Right from retail and mobile banking, to neobank startups, technology has touched every aspect of the banking industry. The digitized future of banking will depend on use of latest AI technology to cope ever-changing needs and expectation of techno- savvy customers. As per study conducted by PwC, more than 81% of banking CEOs are considering the impact of digitization in the finance world. There are several financial organizations trying to keep up with the latest tech trends like chatbots, Artificial Intelligence (AI), Blockchain,

[*]Asst. Prof. B.J. Vanijya Mahavidyalaya, Vallabh Vidyanagar-388120

etc. (https://m.facebook.com/). In order to survive in this stiff competitive fast changing technological environment, adoption of lasted and sophisticated technology is part and parcel. The only winning point is to keep track of the recent trends and start to implement them in the better way before your competitors bring about the change in the field.

Artificial Intelligence (AI)

AI is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize or learn from past experience. (https://www.britannica.com/) In computer science, artificial intelligence (AI), sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and animals. AI can sense and perceive the world by acquiring and processing images, sounds and speech, analyze and understand the information collected by adding meanings and insights, -act based on comprehension and understanding and `learn based on real life experiences and improve performances.

Elements of Artificial Intelligence (Ai)

1. **Machine Learning (ML):** It is related with computer algorithms which will develops automatically through experience.[Wikipedia] For example Siri, Alexa, Google Now,Face Recognition,Online Customer Support etc. are examples of Machine Learning.

2. **Natural Language Processing (NLP):** It is artificial intelligence concerned with the interactions between computers and human languages. [Wikipedia] Example of NLP are Smart assistance like Apple's Siri and Amazon's Alexa recognize patterns in speech, Language translation, Autocorrect, Auto complete, Predictive text . Search engines etc.

3. **Vision:** It is related with how computers can get high-level understanding from digital images or videos.[Wikipedia] In this Computer's vision is trained to understand and interpret the visual world.

4. **Robotics:**Robots are the artificial agents that act in real world environment. Robotics is a related designing, construction, and application of robots.

5. **Autonomous Vehicle**: It means a self-driven vehicle that can sense its environment and move safely with very less or no human input. A driverless car or robotic car is an example of an autonomous vehicle.

Artificial Intelligence (AI)And Banking

Artificial Intelligence (AI) is one of the key drivers that will reshape the banking industry. AI technologies such as machine learning, deep learning, predictive/prescriptive analytics, virtual agents and natural language understanding technologies (e.g. Siri, Alexa, Google home) are being widely banking industries. Financial Services is data intensive and therefore a great candidate for AI automation.

According to Accenture's recent Accenture Banking Technology Vision 2018 report, 83% of Indian bankers believe that AI will work alongside humans in the next two

years — a higher than the global average of 79%. "93% bankers in India said they increasingly use data to drive critical and automated decision-making. (https://www.livemint.com/) State Bank of India, the largest bank in India, last year conducted "Code for Bank" hackathon to encourage developers to build solutions leveraging futuristic technologies such as AI and Blockchain into the banking sector. (https://kapso.in/blog)

In the banking space, the use of AI is crucial at every stage in lending, customer service, fraud protection, employee management/ training/ hiring, and more. Chatbots are now utilized by Private Banks like HDFC Bank and ICICI for customer services. Some banks are also using robots for customer's service.

AI can be used to find out fraud and illegal activities taking place in banking transaction. Abnormality like credit card fraud and anti-money laundering can be easily detected with accuracy by using AI technology. Doubtful behaviour, logs analysis, and spurious emails can be tracked down to prevent and guess security violation. To increase efficiency and reduce cost for customer interactions Humanoid Chatbot interfaces can be used in banks. AI can be used to manage risk as well to do better risk analysis As a result; human errors can be reduced or eliminated by the use of AI.

The best use of AI can be done in digitization and automation in back-office processing. This can be done by using OCR and machine learning/AI. With human intelligence machines can perform specific tasks. It can help employees focus on tasks of greater value while reducing chances of human error and increasing overall productivity. Personalized portfolios can be managed by Bot Image/face recognition using real-time camera images and advanced AI techniques such as deep learning can be used at ATMs to detect and prevent frauds/crimes.

Application of AI to different functions within the banking industry has enabled them to offer a far more personalized and efficient customer service. Also Customers' preference and their expectations from the bank can be fulfilled. AI can help the bank identify the expenditure pattern of the customer and on the basis of that a customized investment plan can be made for the customer.

Many banks are already using instant website chatbots, voice response systems, and mobile applications. With AI, virtual assistants, bank can deliver better customer support. Banking operation like cash transfer, bills payment, cards management, and other support can be easily managed through desktops, smart phones, and other mobile devices.

AI is an emerging sector so lot of employment opportunities will be available in the future likes a software developer and coder.

Challenges Associated With Use of AI In Banking

Application of AI in every branch of bank in India will be challenging task for government. There are number of challenges that need to be solved before implementing AI in Indian banking industries. One of the main challenges before policy makers is lack of a credible and quality data. According to Accenture's Rishi Aurora, "A key challenge

is the availability of the right data. Data is the lifeblood of AI, and any vulnerability arising from unverified information is a serious concern for businesses. Imagine for example, the risks that could arise from KYC compliance AI systems if the data sources are incorrect. Or consider the efficacy of a fraud detection AI system without the right kind of data. Structured mechanisms for collecting, validating, standardizing, correlating, archiving and distributing AI relevant data is crucial."

The major challenge is the shortage of skilled human resources and providing training to the existing workforce to make them familiar with latest tools and applications. India is facing acute problem of surplus employees in the banking sector. Adoption of AI may result into acute unemployment problem in banking sector. Lack of training and unavailability of employees with right data science skills is also big challenge. High cost of production and maintenance of very complex machines, updating of advanced software programs are also challenges that require enormous time and cost.

Overdependence on AI may lead to change in behaviour of employees. Replacing adaptive human behavior with AI may cause irrational behavior. In the present situation there will also be question of ethical use of AI.

Artificial Intelligence controlled by wrong person can lead serious threat to mankind. Artificial intelligence can cause unequal distribution of power in the society. There can be problem of concentration of power among the few individuals who will control it.

AI is only basic computer programme. If it is use unethically that it can become virus and chances for fraud will increase. AI Programme is not user friendly as compare to smart phone. So AI Programmes should be made more users friendly. Knowledge about AI Programmes among banking customers is not enough so there is need to create awareness about it. Also language of AI Programme should be made simple and easy so that it can be understand easily.

Conclusion

Right balance of talent and emotions with AI can bring miracles in the banking sector and it can be possible if the banking industry can manage the security risk of systems based on AI. AI can provide banks and financial institutions a significant competitive advantage. Implementation of AI can bring a transformational change in the Indian banking industry. Quick and personalized services can be provided to customer in effective and efficient manner with accuracy and less human interference. The use of AI in the Indian Banking sector though not yet wide spread, is expected to gain ground in the coming years. AI is one of the innovations that can help the banks in improving in every sphere of banking business

Reference

• Kochhar, K., Purohit, H., &Chutani, R. The Rise of Artificial Intelligence in Banking Sector. In THE 5TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE (ICERP) 2019 (p. 127).

- Sabharwal, M. (2014). The use of Artificial Intelligence (AI) based technological applications by Indian Banks. International Journal of Artificial Intelligence and Agent Technology, 2, 1-5.
- JOSEPH, D. T. (2020). BANKING INDUSTRY-THE VITAL COG IN THE WHEEL OF ARTIFICIAL INTELLIGENCE. Studies in Indian Place Names, 40(16), 203-210.
- Srivastava, S. K. (2018). Artificial Intelligence: way forward for India. JISTEM-Journal of Information Systems and Technology Management, 15.
- Chidhambaran, R., Ambrose, T. V., & Mohan, M. C. Technological changes: Recent trends and challengesin banking sector.

Websites

- https://www.livemint.com/AI/v0Nd6Xkv0nINDG4wQ2JOvK/Artificial-Intelligence-in-Indian-banking-Challenges-and-op.html
- https://towardsdatascience.com/emerging-technology-trends-for-banking-industry-in-2020-beyond-b6ec30f2c102
- https://towardsdatascience.com/emerging-technology-trends-for-banking-industry-in-2020-beyond-b6ec30f2c102
- https://emerj.com/ai-sector-overviews/ai-applications-in-the-top-4-indian-banks/\
- https://www.businessinsider.com/future-of-banking-technology?IR=T
- https://www.smallbusinessbonfire.com/artificial-intelligence-banking/
- https://www.britannica.com/technology/artificial-intelligence
- https://www.bankingfinance.in/types-of-ai-and-their-impact-on-banks.html
- https://www.online-sciences.com/robotics/artificial-intelligence-in-banking-advantages-disadvantages-mobile-banking-services/