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# ROLE OF ARTIFICIAL INTELLIGENCE THE DEVELOPMENT OF INNOVATION

Garima Jolly
*Assistant Professor at Maheshwari Girl's P.G.College Pratap Nagar Jaipur*

**ABSTRACT**

Artificial Intelligence (AI) has been growing at a very fast pace for over the past two decades and has reached a point where it acts as a new frontier in the fields of business, corporate practices and government policies. With the aid of machines and technology, businesses have been obtain in profound amount of positive impact both in term so productivity and competitive advantage. Though it has become an indispensable part of certain areas of businesses, there are a lot of other areas where its viability has not been explored. Although usage of advanced technology has increased since head vent of mechanization, not a lot of focus have been given on the usage of AI in the day-to- day activities of an Industry due to its requirement of heavy investment and procession of less knowledge of its conceptualization. This study mainly focuses on the future prospects of AI in various fields of Industries and suggests the prospective areas in which AI could be implemented in order to obtain most functionality. Therefore, the core aim of the study was identify the areas of various Industries in which AI could be introduced or applied in order to solve immensely difficult issues that requires addressing from something beyond the human touch.

**KEYWORDS-** Artificial intelligence (AI), Technology advancement, Mechanization, Technology up-Gradation

## 1. INTRODUCTION

Everything that we do in our day today life is somehow acquainted with technology. Technology has in-fact taken up a prominent position in every area possible and has become an indispensable part of anything that we could think of with the advent of technology came in the concept of 'augmented intelligence'. The world that we are currently living in has evolved to be a high-tech society over the past 2 decades. There are machines and mechanism all around us and we have become so reliable on it lately that we hardly have anything to do manually no wades.

The emergence of technology in the form of artificial intelligence in various aspects has brought about a new dimension towards the functionality in the fields of Healthcare, Education, Manufacturing Industries, Finance, Data security, Automobile Industry antic.

The ultimate derivation of the term AI is to create machines that are capable of doing workand thinking just like humans or even better than them. It Has The Capability To Revolutionize The Whole Concept of thinking, learning, finding, working, communicating, reacting, decision making, solving problems ,conceptualizing ,discovering antic.

Adoption of AI into the business or an Industry is going to ultimately benefit them in terms ofboth financially and intellectually. AI has the potential to out bring the latent advantages of the business that lies within the framework sand rapidly mechanization order to yield the optimum benefit sou to fit.

Usage of AI in various sectors of Industries have been increasing profoundly for over the pasttwo decades and is expected to be ubiquitous in every business and every Industry in the coming years as well. AI presents a wide array of applications in solving complex cognitive problems associated with humans, in deriving a solution by taking into account and considering all the vital factor sin business problem.

## 2. REVIEW OF LITERATURE

There are a lot of studies that has been conducted in the area of AI. Different aspects of the fieldhave been thoroughly explored through various research works. The following are some of them.

In a work initiated by Margaret A. Gorals Ki and Taykeong Tan tried to bring out the impact of AI in both the business and as well as the society. The various aspects of AI that challenges the business with respect to their sustainable development goals were looked into through this study. They all so enforced the importance of management education with regard tooth employees being impart with the pace at which AI is developing.

Coney Darian studied on the impact of robotic csandartificial intelligence on business and economics. Thestudy was based on conceptual and hypothetical perspective trying to bring out the insights of the future prospects of robots mechatronic sand artificial intelligence in different perspectives. Scott A Wright and Ainslie E Schultz[iii], studied about the recent advancements in robotics, artificial intelligence, machine learning and etc. Through the study they introduced a novel framework that combines stakeholder's theory and social contracts theory for the purpose ofidentifying the ethical implications of business automation, highlights best practices to be adopted, provides solutions and recommendations and reveals the prospective areas of future research.

Ransbotham Sam, iron, David, Gerber Philipp, Reeves Martin[iv], in their research work studied about the prospects of adopting AI in the new Industrial scenario and the process of reshaping the business with artificial intelligence and the initiation to close the gap between ambition and action.

Denise carter from Dcision Consult through is studyon the degree of impact of artificial intelligence in a business formation identified that on foreseeing the future of AI application in various businesses, enhancement of current skills will be required rather than obtaining new ones. It was also determined by the author through the study that the introduction of AI and machine learning into the business will improvise the vital sect so digital and information literacy Nan Industry.

Though various study has been conducted on the application and the prospective impact of AI in various businesses, however not much research work has been conducted on the possible areas where Ai could be applied especially in a developing country such as India where application of AI is still a new concept. Hence, this study mainly focuses on this particular research gap.

## 3. OBJECTIVE

The core objective of the study conducted was to identify some of different businesses, especially in a developing nation, where AI could be applied.

## 4. RESEARCH METHODOLOGY

A well-structured questionnaire was framed in order to collect the primary data. The respondents were chosen on the basis of convenience sampling and a sample size of 100 was determined. Data collected was entered into the Statistical Package of Social Sciences (SPSS) ver. 20.0 for analysis and the analysis was done using Factor Analysis tool.

## 5. ANALYSIS AND INTERPRETATION

For the purpose of identifying some of the areas of businesses where AI could be adopted in a more intricate manner factor analysis was used

In-order to find if the variables that were chosen for the purpose of the study were reliable Cronbach's Alphare Liability test was run.

Table1. Cronbach'Alpha is a reliability tool to validate the data

| Cronbach's Alpha | NofItems |
|---|---|
| .798 | 15 |

*Source-Computed

Table 1 shows the reliability for 15 items which is 0.798, suggesting that the items have Relatively high internal consistency hence there liability of all the items is higher.

In-order to find if the sample size that was taken up for the study was adequate KMO Bartlett's test was conducted.

Table2.KMOandBartlett'sTest

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .670 |
| | Approx. Chi-Square | 290.703 |
| Bartlett's Test of Sphericity | df | 26 |
| | Sig. | .000 |

Source: Computed data

*denotessignificanceat0.05level From Table2 it is evident that the items are statistically significant at.05 level. Therefore, it is convinced that the samplesizeis adequate enough to acquire the desired output.

Table3.Total Variance Explained

| Components | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % Of Variance | Cumulative | Totall | % Of Variance | Cumulative | Totall | % Of Variance | Cumulative |
| 1 | 6.05 | 30.21 | 30.21 | 6.05 | 30.21 | 30.21 | 2.95 | 14.77 | 14.77 |
| 2 | 1.56 | 7.88 | 38.10 | 1.56 | 7.88 | 38.10 | 2.53 | 12.65 | 27.42 |
| 3 | 1.34 | 6.70 | 44.80 | 1.34 | 6.70 | 44.80 | 2.14 | 10.72 | 38.14 |
| 4 | 1.25 | 6.30 | 51.07 | 1.25 | 6.30 | 51.07 | 1.96 | 9.83 | 47.98 |
| 5 | 1.20 | 6.00 | 57.07 | 1.20 | 6.00 | 57.07 | 1.60 | 8.00 | 55.98 |

Extraction Method: Principal Component Analysis.
*Source–Computed

Table3 show sall the 3 extracted factor switch are those with aneigen value greater than 1.

**Table.4RotatedComponentMatrix[a]**

| Areas of various businesses | Component | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Integrated diagnostics data | .603 | | | | |
| Primary care clinician in rural areas | .582 | | | | |
| Organ transplantation | .520 | | | | |
| Investment risks for investments | | .804 | | | |
| Augmented rebalancing | | .591 | | | |
| Portfolio management decisions | | .511 | | | |
| Malware attack detection | | | .731 | | |
| Predicting software bug | | | .694 | | |
| Monitoring internet trafficking | | | .609 | | |
| Detection of machine failures | | | | .636 | |
| Robot-Human collaboration | | | | .537 | |
| Quality control | | | | .529 | |
| Logistics management | | | | | .731 |
| Preventive maintenance | | | | | .609 |
| Innovative generative designs | | | | | .498 |

Source: Computed data

Table.4 shows the 5 major categories of businesses were primarily recognized from running factor analysis test for identifying come of the prospective areas of different businesses where AI could be introduced in more advanced manner. The first category of business is the Health care where there is too much of delay in getting diagnostic reports, lack of medical resource in rural areas and too much of time consumption in the process of or gantrans plantation which could be improvised through the application of AI. The second category is the finance industry which paves way for a lot of risks in investments, portfolio management and etc. which could be avoided with AI. The third category is data security which consists of basic problems such as malware attack, software bugs and internal net trafficking which can be solved by adopting AI. The fourth category is the automobile industry where AI could be applied in an advanced manner in the fields of quality control, early detections of machine failures and utilization of machines in place of humans for hazardous work. The fifth category is the manufacturing sector where AI could use more in preventive maintenance, logistics management and for creating generative designs.

## 6. RECOMMENDATION FOR THE STUDY

Artificial intelligence can be adopted in order to improvise the efficiency of an area of business. By automating various processes acquainted with the areas of different businesses it is possible not just to bring down the operational cost but also can improvise the productivity and meet the ever- increasing market demand at a faster pace.

**HEALTHCARE**- The reexists very limited application of AI in the field of healthcare which amounts only to a meager level when compared to that of a well-developed nation. AI could be used to seek solutions with regard to problematic healthcare issues and use computers for interpreting diagnostic
Data usage of AI in primary care clinician could be implemented and AI could be integrated in to the process of organ transplantation.

**FINANCE**– AI could be used in the stream of finance in order to detect risks associated with stock exchange investments or any investment for that matter, process automations can be developed for fraud detections for the purpose of augment rebalancing and to take prompt decisions with regard
To portfolio manage mint through employing Robotic process automation.

**DATA SECURITY**– Popularly known as cyber security is a prioritized field not just for businesses but for the government as well. It is a very crucial area where utmost concern is required. The advent of high technology has also paved way for the increasing number of cybercrimes. Hence, AI could be used in order to avoid malware attack, for predicting software bugs through Automatic exploit generation and for monitoring outgoing traffic from the internal source.

**AUTOMOBILE INDUSTRY**– Automobile industry have always adopted the latest technologies in order to bring out the most efficient and innovative vehicles into the market. However, there exist a lot of prospective areas where AI could be applied that would not just bring down the operational cost but also improvise the productivity. AI could be used to detect machine failures much ahead of time, Robot- Human collaboration could be introduced to fasten the productivity speed and AI could be used in quality control which acts as the ultimate component that determines the customer experience and satisfaction.

**MANUFACTURING** –Manufacturing industries happens to be one of the prominent sectorsthat contribute to the economic growth of any country. By applying AI into manufacturing industries, we could bring about a transformation in their proceedings. As long asmanufacturing sectors are concerned AI could be applied in their logistics management, forpreventive maintenance and for creating generative designs.
These are the some of the areas of different businesses where AI can be introduced or developed in a more advanced manner in order to overcome mainstream problems that requires faster andmore accurate solutions.

## 7. CONCLUSION

The ultimate aim of applying artificial intelligence into the business is to comprehend and tackle problems and provide with apt solutions by taking into considerations all the vital components acquainted just like how a human logic and cognition works. It is clear that AI has the

Capability to transform any economy through its advance level of technology, innovative strategies and scientific application of knowledge. Application of AI in various businesses ultimately results in a win-win situation for both the businesses and as well as the customers as AI brings out the best services possible through innovative technologies and strategies. It is high time for a lot of business es to adopt AI in to their day-to-day

activities as the global competitiveness is strengthening and various innovative processes are been initiated by various industries. AI can reshape the markets, bring about an innovative revolution in the process of research and development, business processes and global economy.

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