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ARTIFICIAL INTELLIGENCE - THE ENGINE DRIVING THE NEXT WAVE OF TRANSFORMATION IN BUSINESS

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ABSTRACT

With the rapid economic growth of internet and information systems, digital transformation is becoming a hot topic for corporate across the globe. Improved customer awareness and widespread education accomplishments has increased the use of digital technologies in the enterprises. AI can bring out total digital transformation when the organization will have coordination between different business units be it Human Resource, Marketing, Finance, Manufacturing or processes to carry out its mission more quickly, responsively and efficiently. If the Automotive industry has to completely transform itself into a high tech artificially intelligent manufacturing unit then it has to lay emphasis on a number of foundation technologies and process innovations. Technology driven financial sector trying to automate routine tasks and routine policy decisions so as to bring greater speed proficiency, cost effectiveness, high-accuracy, and efficiency in financial transaction. Marketing AI models uses reporting, analytics, advanced analytics, data mining, modeling and predictive modeling to bring out predictive insights from aggregate data regarding different aspects of customer behavior.HR professionals can make use of different AI technology and tools for all the functions of HR be it recruitment, selection, training, development, performance management, compensation and reward management

Keywords: **Artificial Intelligence, Management.**

I. INTRODUCTION OF ARTIFICIAL INTELLIGENCE

With the rapid economic growth of internet and information systems, digital transformation is becoming a hot topic for corporate across the globe. Improved customer awareness and widespread education accomplishments has increased the use of digital technologies in the enterprises. Digitization focuses on creating, controlling and integrating a well structured operating model with different processes so as re-envision the goals and redefine the way different functions interact. 21st century is a service driven economy which is marked by different information and communication technologies, such as mobile commerce, Social media, Cloud computing, ERP, knowledge management, Artificial Intelligence, E-Commerce, digital organization and big data analytics. Organizations are increasingly transforming themselves by changing customer relationship dynamics and internal processes, which in turn is helping them to become globally responsive so as to respond to the environmental changes in real time. Artificial Intelligence is a very rich and diverse field which is having applicability in a wider industry spectrum - automobiles, telecom, healthcare, retail, entertainment, education,

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banking, insurance, credit cards, FMCG, apparel, durables, media, business services and tourism. Artificial Intelligence encourage digital customer engagement which brings down cost and bring more flexibility to the organization. AI focus on learning from experience and alter their processing and behavior based on those learning.

Artificial Intelligence can be described as : The art of creating machines that perform functions that require intelligence when performed by people" (Kurzweil,1990). The branch of computer science that is concerned with the automation of intelligent behavior." (Luger and Stublefield, 1993) [1]

Artificial intelligence is that activity devoted to making machines intelligent. AI considers science, statistics, mathematics, engineering and computing to inculcate logical facts in a computer that would result in rational behavior. It involves the process of deploying knowledge facts in business systems so as to enable cognitive computing. [2] Cognitive Computing a new development paradigm involves simulation of human thought processes in a computerized model. Cognitive Computing provides training, coaching and supervision to an artificial intelligence solution. AI deploys a expert system which is a collection of multiple technologies to facilitate machines to sense, comprehend, act and learn either their own or to supplement human activities by identifying data sources to gather and analyze information. Intelligent systems demands a different skills and mindset that influence people, different communities and society at large. [3]

Artificial Intelligent system involves self learning systems that reason with purpose and interact with humans naturally to create a artificially intelligent products and services. Such a Artificially intelligent knowledge based organization creates a multi layered neutral networks that plan, act, understand and reason from the experiences with their environment.

AI can bring out total digital transformation when the organization will have coordination between different business units or processes to carry out its mission more quickly, responsively and efficiently. There is an exponential growth in computing power, memory capacity, cloud computing and global connectivity which collects, organize and analyze huge volume of data to generate actionable insights.

Intelligent systems built on a solid foundation of technology-enabled processes and data that affects every aspect of management whether it is marketing, HR, Finance, operations, or IT.[4]

II. ARTIFICIAL INTELLIGENCE IN MANUFACTURING

AI draw attention to create a strategic approach that is business-oriented, people-first and technology-rich which in turn generates a pervasive influence on business, transforms the customer experience, improve company performance, enhance productivity in operations and improves the way employees collaborate. AI develops a transformative vision of the Manufacturing Industry. The industry is in the first stage of its next automation breakthrough—that is using artificial intelligence to make production decisions in real time, to reduce design costs, assist in solving scheduling problems, identifying its use in manufacturing integration. [5]

AI in manufacturing stress on making intelligent design, intelligent operation, intelligent control, intelligent planning and intelligent maintenance that requires incremental investments in developing a foresighted vision, well improved governance, and motivated customer and employee engagement. [6]

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If the Automotive industry has to completely transform itself into a high tech artificially intelligent manufacturing unit then it has to lay emphasis on a number of foundation technologies and process innovations. It has to speed up its robotics program and develop a networked factory system where data from supply chains, design teams, production lines and quality control are linked to highly integrated creation engine and expert system that focus on high margin and capital intensive products. [7] [8]

Application of Machine Learning to Industrial Planning and Decision Making involves few innovative artificially intelligent techniques of production planning and control systems. Few of them could be - Geometric Reasoning Using a Feature Algebra, Interactive Problem Solving for Production Planning, Learning Approach for Effective Scheduling, Intelligent Agent Framework for Enterprise Integration and Integrated Software System for Intelligent Design and Quality Manufacturing. [9]

III. ARTIFICIAL INTELLIGENCE IN FINANCIAL SERVICES [10] [11] [12]

Artificial Intelligence in financial sector is helping the companies to gain and manage more volume with existing physical capacity. Technology driven financial sector trying to automate routine tasks and routine policy decisions so as to bring greater speed proficiency, cost effectiveness, high-accuracy, and efficiency in financial transactions. Artificial intelligence programs can react, adjust analyze all such changes in knowledge and provide the corresponding knowledge responses to bank employees and customers. Predictive analytics allows for the automation of evidence gathering and the production of complex data reports. These Inference engines provides four major benefits as regards to improved Quality, increased effectiveness, better efficiency and deeper insight into different financial aspect which helps in saving time and improving client services. Sophisticated technologies encompassing neural networks and expert systems assist in handling customer transactions, financial risk assessment, industry regulatory compliance and reduced institutional costs.

Automated financial advisors and planners monitors events, stock prices and bond prices in global firms so as to assist them making faster and accurate financial decisions against personal buyer's portfolio and financial objectives.

In marketing of banks, smart wallets can identify and monitor user's habits, needs, finance spending and saving behavior by mining existing data and making analysis about the future trends.

Insurance sector are automating and innovating entire underwriting process with the help of different designers, coders, developers and marketers to ensure new concepts are identified, developed and commercialized professionally. New AI applications introduce a number of business, security / privacy issues, behavioral patterns to identify anomalies and warning signs of fraud attempts and occurrences.

IV. ARTIFICIAL INTELLIGENCE IN MARKETING

Marketing AI models uses reporting, analytics, advanced analytics, data mining, modeling and predictive modeling to bring out predictive insights from aggregate data regarding different aspects of customer behavior. Marketing has to redefine value proposition by making it more personalized customer experience and tailored

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offerings that help in supplement human knowledge, communicate with prospective customers more efficiently, eliminate monotonous jobs, generating more Insightful experiences. Machine learning, Visualization, Big data, Natural language processing, Graph Analysis, Robotics, Social network Analysis, Simulation Modeling and Image Analytics helps in analyzing structured and unstructured data from credit cards, sales databases, social networks and from web pages. Artificial intelligence is being used to create custom commercial messages and campaign materials for individual consumers based on their user profile and media behavior to maximize message retention and consumer interest.

V. ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE

HR professionals can make use of different AI technology and tools for all the functions of HR be it recruitment, selection, training, development, performance management, compensation and reward management. Different robots are using automated reasoning, learning, complex programming and perception abilities that can recognize their other person's emotions and feelings that helps the HR in getting real time feedback and information. These emotionally intelligent information help people to guide, think, behave and manage emotions according to the changing environment. With the computers starting thinking, organizations are taking the help of Digital Assistants who can actually interact with the users rationally and logically to make them connected with their job roles and organization more effectively. AI tools helps in developing Customized Career development, training, learning and development plans that will help in improvement in employee productivity, less absenteeism, improvement in job satisfaction, lower employee turnover, higher returns to shareholders and lower stress.

VI. CONCLUSION

Executives in all industries are realizing the unstoppable potential of Artificial Intelligence. They are becoming conscious of the fact that AI is not a matter of any single technology but an amalgamation and integration of different related technologies so as to get good quality products and services at low cost and in less time. This will have an overall impact on the performance of market, organizations and on the holistic culture of the organization. In order to get high returns on the investments it is essential for an organization to identify Key areas in Manufacturing, Marketing, Finance and HR, where AI can be applied effectively.

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