

ARTIFICIAL INTELLIGENCE AND ITS RELATION WITH MANAGEMENT & CUSTOMER SUPPORT SERVICES

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ABSTRACT--*The coming era is the era of robotics and such robotics are a result of AI. Within coming few decades, humans will soon be replaced by machines in every task. People will choose more and more capital intensive techniques. AI in layman language can be defined as origin of machines in performing these activities that were once performed by humans. With the help of robotics & AI, we can finish our work in less time and with little or no wastage. Every department of management i.e marketing department, finance department, R&D, production department, customer relationship building, customer support services etc, hold a good pace of AI into it. The work that was once performed by machines is now being replaced by robots and machines. This research study is based on experimental research & descriptive design both. Data collected is both primary and secondary. Primary data is collected by questionnaire method from 60 people of different age groups and secondary data is collected from various journals, fellow researcher papers, own publications, surveys by different organizations, reports of organization, etc. This paper reveals how much people are aware of AI, acceptance of AI by people, replacement of humans by machines & encourages the maximum use of AI and technology into management & customer support services.*

Keywords--*AI, Management, and Customer support services, Robotics, Machines.*

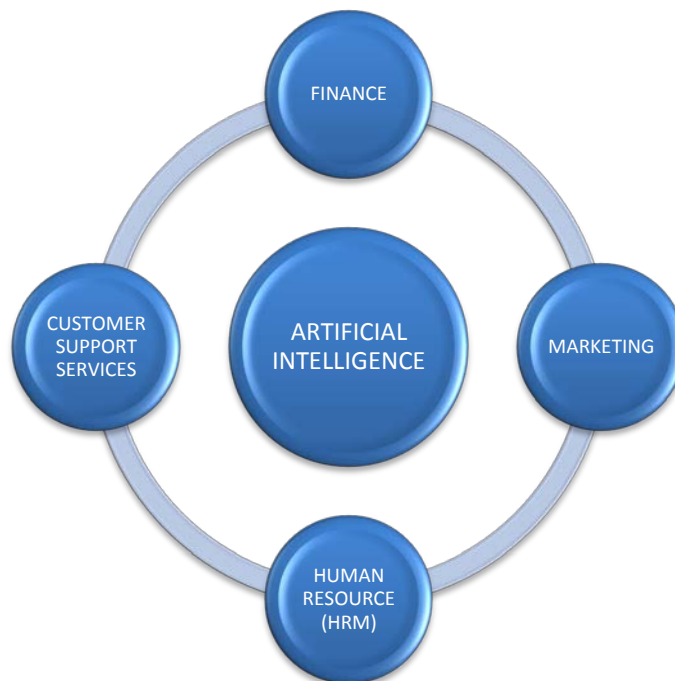
I. INTRODUCTION

The most vital factor which has affected the industry to the greatest extent is the innovations and technology. Nineteen century is the year of invention of robotics. The first robot was developed by George Devol in 1954 known as unimate. Unimate was the first digitally operated, programmable robot in the world. Since 19th century, robotics entered into production department replacing humans. In 1970, internet paced up with the personal lives of humans replacing human labor with machines. Now a days, the present era is the era of new technology that has affected the working life of humans known as AI. AI or artificial intelligence is defined as the technology that observes human nature and reacts with it accordingly. The primary motive of AI is to succeed in every attempt without any probability of failure. The main characteristic of AI is that it is in contrast with human nature. It not

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only has replaced humans but works more effectively and efficiently as compared to humans. In order to cope up with the dynamic environment and market conditions, most of the organizations are moving towards the adoption of AI. AI can even perform at that places where human labor is impossible. The present era of business markets is quite competitive & dynamic and to overcome all these organizations are stepping forward to the use of AI and its empowerment. Marketer's first preference of artificial intelligence lies in finance, customer support services, marketing, human resource management. In human resource management (HRM), AI is used to recruit, select and interview the best possible candidate resulting in right man for the right job. In finance department, AI is used to detect frauds, lending, optimization of available financial resources, etc. In customer support services, AI is used to take queries of customers & provide them with solution in minimum time, quick access to the managers without any delay, etc.



For the success of an organization, all the departments of the organization such as: Marketing, Finance, HRM & Customer support services are interconnected and work more generously & smoothly when employed with AI.

II. REVIEW LITERATURE

There has been a tremendous rise in AI developments and its uses in management and customer support services. With this growth of AI, many semantic barriers and human obstacles have been removed as humans have been replaced with robots. AI implied in various fields such as: finance, marketing, customer support services and HRM.

Kapoor (2010) in his research, studied the use of AI and its role in human resource management. He researched the various analytical techniques that were used in HRM by managers.

Jain (2018) in his studies explains the role of AI in HRM and how it plays a vital role in HRM. According to the researcher, most of the companies are heading towards the adoption of AI and advanced technology for various purposes like: web based interviews, e-recruitment, etc.

As per Durician (2015), activities such as: coaching, training, production, sale, etc require personal contact between the trainer and the trainee and with the use of robotics, this poses a negative impact on the trainee as they require personal contact with the trainer.

AI had its no use in finance industry till 1980. It was only in 1982 that AI was adopted in finance industry. The first finance company that adopted AI was Renaissance Technologies that developed knowledge systems that provided solutions to all the problems in a specific context.

Brown and Philips (1990), explained the expert system as similar financial planning as knowledge systems. They provided the relevant examples that used knowledge systems for control of operational activities and knowledge separation.

Marketing did not had pace of AI before. It is only with the innovation of robotics and machines into marketing, the marketing strategies were framed according to it.

Implementation of AI in marketing is still lacking at high level although it is to be implemented in every company. Only 20% of the companies have really adopted AI for marketing whereas 98% of the companies have shown their interest in adoption and implementation.

(Bughin, Mc larthy and Chui, 2017)

Success of companies using AI can be enhanced by providing customized services to the customers resulting in development of market share. This also helps the marketers in decision making. For this decision making process, AI has developed marketing management, support system that provides customized services and enhances decision making process of the marketers.

(Wierenga and Van Bruggan, 2000)

Echeveri&Salmonson (2017), in their study explained that the main focus of customer service marketing withstands between the firm and customer. With the help of AI they are able to succeed into it.

Anton (2000), revealed that customers expect immediate access to their problems from the firms they are dealing with.

2.1 Importance of the study

1. This study helps in the adoption of technology in context of management.
2. This helps to study the increasing replacing nature of robotics over human.
3. This further helps to study the effect of AI on firms and their customers.
4. This study helps to study the changed pattern of level of satisfaction with regard to the robotics.

2.2 Objectives of the study

1. To study the role of AI in finance, HRM, customer support services.
2. To study the impact of AI emergence on customer dealings.
3. To study the various concepts of management in relation to AI.

III. RESEARCH METHODOLOGY

The research in this study is descriptive as well as experimental in nature. Both primary and secondary data is used for this study. Primary data is collected from different journals, surveys, reports published by the government & various organizations, magazines, etc. The secondary data is collected by using the questionnaire method. A sample of 60 persons was taken of different age groups and the responses collected were applied to factor analysis.

4 Data Analysis and Interpretation

The table below shows the KMO (Kaiser-Meyer-Olkin) and Bartlett's test value which helps in the examination efficiency. The KMO and Bartlett's test ranges between 0 and 1. However, the acceptable and recommendable value is 0.6, which is greater than 0.5. Any value above 0.6 and less than 1 is considered sufficient. In this table, KMO is 0.855 which is greater than 0.6, hence it is sufficient and indicates that the sample taken is sufficient enough and acceptable and thus, we can proceed with the further factor analysis. Bartlett's test is performed by assuming or taking $\alpha=0.05$. In this table, the Bartlett's test value is .000 which is less than 0.05, hence it is proved that factor analysis is valid.

Table 1 :KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.855
Bartlett's Test of Approx. Chi-Square	6277.1
Sphericity Df	15
Sig.	0.000

The table below shows that the initial eigenvalues consist of all the 6 variables with the percentage of the variance of all the variables with the cumulative percentage of variance. After applying factor analysis in SPSS 20.1, the resultant 2 factors have 67.420 per cent of the variance. Any factor whose eigen value is less than 1, will be selected for a particular factor.

Table 2: Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.136	45.603	45.603	2.106	45.105	45.105
2	1.309	21.817	67.420	1.339	22.315	67.420
3	.965	16.076	83.496			
4	.792	13.205	96.701			
5	.741	12.342	109.043			
6	.057	.956	109.999			

Extraction Method: Principal Component Analysis.

In this table i.e rotated component matrix, Varimax with Kaiser Normalization is used. There are resulting two components i.e component 1 and component 2. The results of the variables can be well explained through the following explanation:

- Knowledge about Evorus (Chatbot systems): Component 1 is loading on component 2.
- Knowledge about Miko (Education learner and enhancer): Component 1 is loading on component 2.
- Meaning of AI: Component 1 is loading on component 2.
- Knowledge of Alexa (personal assistant): Component 2 is loading on component 1.
- Preference for the use of AI in managing day to day activities: Component 2 is loading on component 1.
- Meaning of Robot: Component 2 is loading on component 1

Table 3: Rotated Component Matrix(a)

	Component	
	1	2
Knowledge about Evorus (Chatbot systems)	.943	
Knowledge about Miko (Education learner and enhancer)	.909	
Meaning of AI	.447	
Knowledge of Alexa (personal assistant)		.804
Preference for the use of AI in managing day to day activities		.613
Meaning of Robot		.481

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 a Rotation converged in 3 iterations.

4.1 Findings of the study:

1. From this study, we got to know that people have heard of AI but have little in-depth knowledge of AI.
2. As per the samples taken & their responses, it is revealed that people are not practically using the various AI developments.
3. Many people in their responses wished to use AI in managing their day to day activities.
4. Most of the respondents gave their responses in favor of marketing, where AI should be effectively used.

IV. CONCLUSION

The most prominent growing sector is the industrial sector. In the present context, the major challenge before the various industries and organizations is the ever changing dynamic environment and various techniques. To cope up with such dynamic environment and work effectively & efficiently, organizations are heading towards the adoption

of AI in their various fields. Various HR activities such as: interviewing, training, recruitment, selection, etc use AI for enforcing them & also provide real time information. Massive implementation of AI is required in marketing sector. For present and future successful course of action, the marketing managers need to experiment with various AI strategies and developments. Application of AI and its various strategies in finance sector helps to avoid various frauds, bureaucracy, corruption, tax evasion, lending and helps in smooth flow of operational activities. It further helps to overcome the risk and provide customer with the utmost required financial information. AI also helps in building customer relationship by helping the organizations to provide customers with different customer support services. AI helps to provide solutions to all the problems of the customers and give answers to all the customer queries. With the help of AI and robotics, the robots are fed with certain keywords that occur frequently in customer queries and when these keywords are put to robot by the customer, the robot provides immediate solution to the problem resulting in lower waiting time. Now the customers can get immediate solution to their support service problems. AI can perform at that level where human performance is not possible. From this study, we can conclude that 90 per cent of the customers & organizations have agreed to the use of AI in their day to day activities but it is also clear that AI and robotics are replacing humans & within coming 10 decades, humans will be totally replaced by the robotics & machines.

5.1 Outcomes of the study:

1. AI is growing in every industry of management at a higher pace than any other development.
2. People & various organizations have accepted the use of AI & some have already implemented it.
3. About 20 per cent of the respondents do not want the use of AI in their day to day activities as they think that the robotics is controlling humans.
4. Very few respondents are personally using various AI developments such as: Alexa, Miko, Evorus, etc.

5.2 Limitations of the study:

1. Very small sample size is taken whereas detailed study of AI requires a large sample size.
2. A detailed study of AI cannot be possible due to time constraint and limited paper study.
3. Collecting responses from different people of different cities is a difficult, time consuming & costly affair which could not be possible in limited budget and time.

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