Impact of Artificial Intelligence in Information Technology Sector With Reference To Bangalore City

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ABSTRACT
The first stage is to understand the human mind and thought process, and the second is to use machine learning to create a model of these mental operations. The information technology sector is only one market that AI has successfully disrupted. The primary motivation for this research was to learn how AI has influenced the present-day IT industry in Bangalore City.Recent developments in knowledge, methods, and sophisticated technology have significantly enhanced AI. While it is crucial to examine how artificial intelligence is affecting the whole IT industry, it is also crucial to look at how it is affecting the sector as a whole. The study's 200-person sample was drawn from five different IT firms including Wipro, Infosys, Oracle, IBM, and TCS. 155 questionnaires used for analysis. It is noted that four of the independent factors, including the availability of vast volumes of data, innovations' progress, and Deep learning advancements have a substantial impact on AI in Information Technology sector in Bangalore city.
Keywords: AI, IT Sector, Machine Learning, Effectiveness.

I. INTRODUCTION

Artificial Intelligence (AI), where computers do work normally done by humans. Artificial Intelligence is becoming a hot topic in every science and engineering discipline. Artificial intelligence (AI) is a comprehensive phrase that describes machine learning techniques and software used to analyse, present, and comprehend medical data. **(Ahmed, S. M 2019).** The computer algorithms' capacity to estimate the results based solely on the incoming data. One of the main differences between traditional and AI technology in healthcare is the ability to gather, process, and provide well-defined and accurate output to the end user. The main purpose of AI in healthcare is to investigate the association between treatment methods and patient outcomes. Artificial intelligence is used in healthcare for diagnosis, treatment protocol development, drug development, patient monitoring, and personalization. **(Upadhyay, N 2021).** Using AI can help entrepreneurs be more flexible towards services. There will be an increase in lean methodology and lean start-up qualities. As a result, businesses will flourish enormously without the current hassles. Every firm will seek more automated chores to improve their organisation and administration. **(Fossen, F. M., & Sorgner, A. 2021).** Entrepreneurs will now be able to test their ideas in hours rather than months, allowing them to become reality. Perhaps now, it's highly possible to execute smaller and repetitive jobs single handedly with great efficacy. Computing, developing software, and transmitting data are only a few examples of information technology ideas that fall under the umbrella term "artificial intelligence." Though cyberattacks are on the increase, artificial intelligence has arrived at a critical juncture. In order to secure their data and information systems, many corporations and commercial businesses nowadays use artificial intelligence. The difficulties with cyber security and cyber-attacks come to mind when people think about artificial intelligence (Dilek et al. 2015).

One thing is very clear: the necessity for adopting artificial intelligence (AI) isn't simply growing; it's become crucial. This is due to the years-long trend towards Industry 5.0, as well as the challenges of the 2020 economic environment. And even if a lot of industrial companies currently don't have any knowledge about or experience with

industrial AI, being able to embrace and execute it will fast become a matter of survival. Thus, the year 2022 is set to actually represent a turning point for a new kind of AI called Industrial AI. The New Year will see the first signs of industrial AI becoming a widely accepted industry category, despite the fact that both startups and established industrial corporations have made their own pushes in this area.

II.   REVIEW OF LITERATURE

Alpaydin, (2020) Given that they operate via computer programmes, these principles have broad applications in the scientific and technology fields. Since the majority of artificial intelligence systems do not need human aid, they are effective. Artificial intelligence (AI) has given rise to the idea of machine learning, which is based on data and patterns that the system utilizes to make judgments.

Makridakis (2017) The use of AI is crucial in securing cloud storage systems against intrusion by hackers and con artists who want to get access to sensitive information ("Advantages of Artificial Intelligence").The usage of artificial intelligence has gained popularity throughout the globe since it offers more benefits than drawbacks for both businesses and people. AI intelligence will permeate every aspect of life in the future. As can be observed nowadays, companies and travel use AI to run well. A few years from now, corporations will utilise robots for product transportation, while individuals will purchase robots to assist with a wide range of home tasks.

Sergi, B. S.'s (2020) aimed to calculate the future percentage and variations of human cognition and artificial intelligence (AI) usage in industry 4.0 social entrepreneurship. The study explored future AI usage in social entrepreneurship and assessed stakeholders' interest and motivation in executing the terms till 2030. It will not fully automate, however, will employ human resources sparingly, and boost the impact of artificial intelligence, according to the report.

S. Robledo et al. (2021) investigate the factors that influence the impact of corporate digital entrepreneurship on India's SMEs. The relevance of AI-CRM competency in corporate digital entrepreneurship in developing countries like India is being addressed. The study found two moderators had substantial influence on corporate digital entrepreneurship SME links in India.

Andrew Ng (2016) His study, titled "What Artificial Intelligence Can and Cannot Do Right Now," examines the implications of AI for businesses. Automation, machine learning, and robotics are among topics he discusses in this discussion concerning the future of work. Careful consideration must be made when selecting A and B for AI work, and the AI must be provided with all of the information it needs to establish the A-B connection. Many industries have been revolutionized thanks to A and B being creatively chosen. Many other industries might expect to be revolutionized by it.

Jewandah S (2018) Using the four largest commercial banks in India as a case study, the author of the research paper "How Artificial Intelligence is altering the banking sector: A case study of the top four Commercial Indian Banks" analyses the areas into which machine intelligence is being introduced and the ways in which AI is being applied within the banking industry. Progress in conventional banking is being accompanied by an increase in the use of cutting-edge technology like as blockchain, the cloud, and artificial intelligence. As of now, though, the AI revolution has not reached the banking industry, and human interaction remains essential.. In order to enhance bank operations and customer service in the near future, India's banking industry is learning how to utilise AI.

Objectives
1. To analyze the demographic factors with AI in IT Sector
2. To examine the factors influencing on AI in IT Sector

III.   RESEARCH METHODOLOGY

Primary data are used in the investigation. The required information was gathered via the use of questionnaires. After discussing with the employer and workers in Bangalore's IT industry, questions on the goals have been developed. The researcher has taken the sample of 200 from 5 IT companies like Wipro, Infosys, Orcle, IBM and TCS. There are 155 questionnaire are valid for analysis.

Hypothesis
H_1: There is no factors influencing of AI on IT Sector in Bangalore City
Data Analysis and Interpretation

Descriptive Statistics

Variables	Characteristics	Frequency	Percentage
Gender	Male	107	69
	Female	48	31
Marital Status	Single	76	49
	Married	79	51
Age	20-29	79	51
	30-39	64	41.3
	40-49	12	7.7
	50 -60	0	0
Education level	Diploma	33	21.2
	Graduate	79	50.9
	Post Graduate	43	27.7
Monthly household income	10000- 20000	15	9.6
	20001-40000	35	22.5
	40001-60000	40	25.8
	60001 & above	65	41.9
Experience	0 – 1 year	36	23.2
	2 - 6 year	105	67.7
	7- 11 year	10	6.5
	12- 20 year	4	2.6
Position	Software developer	18	11.6
	Software Architect	45	29.0
	Software engineer	70	45.2
	Fresher's	22	14.2
	Jr. Software Developer	22	14.2

(Table 1 own source calculation)

Out of 155 responses, those between the ages of 20 and 29 made up the majority (51% and 41%), followed by those between the ages of 40 and 49 with just under 7.7%. A sample of this size was taken from the population, and 69% of the respondents were men and 31% were women. Table 1 also reveals that, of the 155 respondents, 76 were married and 79 were single. The majority of respondents, or 53%, have graduated from high school, while 27.7% of respondents have post-secondary degrees, followed by 21.2% of diploma holders. Majority share occupied by software engineers and followed by software architect 29%.

Reliability Test

Variables	No. of Statement	Alpha
Availability of enormous amounts of data	4	0.882
Advancement in innovations	4	0.856
Competition drives efficiency and	5	0.904

interests		
Advancement in deep learning	4	0.819

In table 2, the internal consistency of the questionnaire, which gauges how closely the questions and variables are connected to one another, was evaluated using the Cronbach's alpha reliability test in table 2. The findings demonstrate that the measurement used in the research is accurate since the alpha values are equivalent to or higher than 0.70, and as a consequence, it is approved (Goodboy et al., 2020).

Factors influencing of AI on IT Sector in Bangalore City

ANOVA							
		Sumof Squares	Df	Mean Square	F	Sig.	Remarks
Availability of enormous amounts of data	Between Groups	2.983	1	.709	9.801	.001	Rejected
	Within Groups	46.882	153	.618			
	Total	49.865	154				
Advancement in innovations	Between Groups	1.833	1	.711	2.785	.000	Rejected
	Within Groups	49.909	153	.873			
	Total	51.742	154				
Competition drives efficiency and interests	Between Groups	2.913	1	.588	2.983	.000	Rejected
	Within Groups	32.819	153	.916			
	Total	35.732	154				
Advancement in deep learning	Between Groups	.393	1	.393	.331	.000	Rejected
	Within Groups	568.355	153	1.189			
	Total	568.748	154				

The null hypothesis was rejected based on the availability of large quantities of data, according to the findings of the ANOVA test performed to each statement of variables impacting AI on the IT Sector. Innovations are becoming better, competition is driving efficiency and interest, and deep learning is having a big influence on the IT sector in Bangalore City..

ANOVA

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.374	.363	2.81608

ANOVAª						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1066.467	1	266.617	33.620	.000[b]
	Residual	1784.320	153	7.930		
	Total	2850.787	154			

Coefficientsª						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	Availability of enormous amounts of data)	5.013	.734		6.832	.000
	Advancement in innovations	-.870	.735	-.184	-1.184	.001
	Competition drives efficiency	5.442	.794	.597	6.858	.000
	interests and Advancement in deep learning	-.429	.685	-.045	-.627	.000
a. Dependent Variable: Green Practices						

It can be seen from the coefficient table that four of the independent variables, namely the availability of vast quantities of data, progress in inventions, Efficiency and interest are driven by competition, and advances in deep learning have a substantial impact on AI on the IT Sector in Bangalore City.

IV. CONCLUSION

The development of new technologies and tools that are vital to doing business, educating children, and facilitating communication as a result of artificial intelligence has significantly changed how the human population uses technology. Machine learning, deep learning, biometric identification, voice recognition, and NLG are some of the methods that are useful in AI. Due to its numerous benefits, including its accessibility and convenience in various gadgets, AI has grown in popularity. It provides a broad variety of services, including digital support, medicinal applications, and the repair of faults by growing as it works. But policymakers should also be cognizant of its shortcomings, such as data issues, technology issues, and security issues that can impair its efficacy.The IT industry growing AI impact is a solid indicator of the digital developments. This is because it demonstrates how industry may leverage cutting-edge technology to increase efficiency and productivity. Clients in the IT industry profit as a result of increased satisfaction. The study found that the dependent variable, AI on the IT sector in Bangalore City, is significantly impacted by four of the independent variables, including the availability of enormous amounts of data, innovation advancements, competition driving efficiency and interests, and advancements in deep learning.

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