AN IMPACT OF ARTIFICIAL INTELLIGENCE ON BUSINESS

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Abstract:

The modern technological era is perhaps the most exciting in human history because innovations and advancements occur almost instantly. Among the Artificial intelligence (AI) technological advancements are industrial robots, self-driving vehicles, smart watches, and video classes.AI is now ingrained in every aspect of our lives and has a significant impact on people, society, and businesses. Artificial intelligence has made significant progress over the past few years, and today almost every industry is changing its business models and strategies to incorporate AI into all aspects of its operations. However, businesses are unaware of the repercussions of this AI adoption; therefore, its influence requires consideration.The purpose of this paper is to determine the effects of AI on businesses by polling regular employees and business decision-makers. in business enterprises in the Indian state of Ludhiana. Data collection from participants is done using an online survey questionnaire. We analyzed the data using a variety of frequency distribution tables, Figures, and the one-way ANOVA technique. In order to determine the impact of AI on business, four distinct business dimensions are taken into account for the analysis.The results of this analysis demonstrate that AI possesses ample opportunities and transformative potential in the organization and is now universally known. AI will assist businesses in preparing for the challenges posed by the accelerated technological progress in business and in everyday life. It has been demonstrated that AI has a positive effect on all business functions, as it improves sustainability and market leadership.

Keywords:artificialintelligence, automation, businessmodels, robotics, technology

Introduction:

John McCarthy, the father of AI, defines it as "the science and engineering of creating intelligent machines, especially intelligent computer programmes."

Machines that exhibit intelligence are said to have artificial intelligence (AI). In software engineering, AI is defined as the study of "intelligent agents." Commonly, the

term "artificial intelligence" means a machine's ability to simulate human-like characteristics, such as learning and critical thinking.

The amount of programming that uses artificial intelligence elements has significantly increased over the last few years.For today's tech giants, subfields of AI like Machine Learning, Image Processing, Natural Language Processing, and Data Mining have become increasingly important. Netflix's show suggestions, Gmail's spam filter, and Google's predictive search bar all make use of "machine learning."Natural Language Processing is a technique used by Google Voice and Apple's Siri. Image processing is necessary for Google's self-driving cars and Facebook's facial recognition software. Due to the enormous amounts of data that are collected every day, the term "information mining" has entered the programming industry's slang vocabulary.Organizations such as Facebook and Google consistently collect a large amount of information from their clients and need a method to interpret this data. AI technology has successfully established itself as a genuinely useful tool in today's technologically advanced society.

Artificial Intelligence

Artificial intelligence (AI) is the "ability of a computer or computer-enabled robotic system to process data and produce results in a manner similar to the way humans learn, make decisions, and solve problems."

Furthermore, the purpose of AI technology is "to solve complex problems using human-like logic and reasoning."

Source:-PwCanalysis
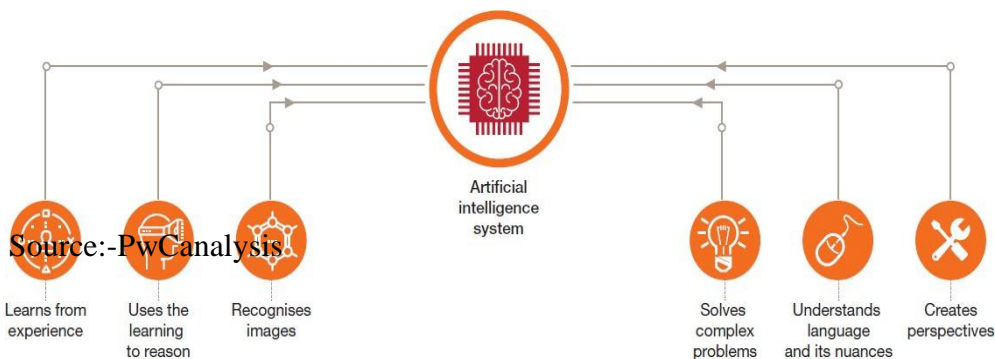
Review of Literature:

According to Nilson, the emergence of AI as an independent area of study was bolstered by three important meetings: "A 1955 session on Learning Machines held in conjunction with the 1955 Western Joint Computer Conference in Los Angeles, a1956 summer research project on Artificial Intelligence convened at Dartmouth College, and a1958 symposium on the Mechanization of Thought Processes sponsored by the National Physical Laboratory."

In the current situation, artificial intelligence (mechanical technology) has the ability to mimic human intelligence, carrying out different functions that call for learning and reasoning, taking care of problems, and making decisions. Programming or projects incorporating Artificial Intelligence that are integrated in robots, computers, or other devices give basic reasoning ability to them (Zhang et.al2016).

AI has the potential to mimic human characteristics and behaviours (Turanetal, 2017). Furthermore, current developments in artificial intelligence do not include the ability to learn on their own; rather, it is provided with instructions to follow. Artificial intelligence will eventually lead to a world where machines can understand human feelings and behaviors and schedule their actions accordingly (MartnezandFernández-Rodrguez,2015).

AI is altering the conception of nearly every aspect of human life, including work, financial system, communications, wars, safety, security, ethics, social insurance, etc. It remains to be seen, however, whether its long-term development is propelling humanity toward devloping this world a better place to live or a place filled with catastrophe. Each technology has benefits and drawbacks, but for a technology to be successful on the market, benefits must consistently outweigh drawbacks.In any case, for AI, we are not yet certain whether positive outcomes will consistently continue to outweigh negative impacts over the long term, and if that isn't the case, then we are in a challenging position.

If we look around, it seems as though technology is bringing about change, whether it be through "smarthomes," "smarthealthcare," "Industry 4.0," or autonomous vehicles. On the contrary, we commonly observe ourselves opposing the administration on issues like unemployment, fees, security, and so forth. More robots or autonomous systems are being developed to replace human labouras AI development picks up speed. This is the situation right now; in any case, long-term outcomes seem to get all the more fascinating (Tyagi, 2016).

Objectives of the Study:
The following objectives for his study have been suggested by the author, who is aware of the quick changes in business processes brought on by AI:

1. To identify the areas of businesses and our lives where these AI transitions are most likely to have an impact.

2. The degree to which people are at ease using AI technologies

3. The part AI plays and how it affects strategies and business models

Research Methodology:
The author has chosen 50 regular employees and business decision-makers working for companies in Ludhiana. In order to collect data, an online survey is used to explore the attitudes and levels of knowledge held by respondents regarding artificial intelligence (AI) and the immediate and long-term effects it will have on society.

A survey was conducted to learn about consumer and business perceptions of the significance and expected impact of AI across industries and our daily lives in order to comprehend its impact. In order to learn more about attitudes toward AI and its present and potential social impacts, we also conducted an online survey among decision-makers and regular employees of Indian businesses operating in a variety of industries, including manufacturing, financial sectors, and technology. Adults working in self-service or full-time/part-time roles in the organizations under consideration participated in the survey.

Business decision-makers and influencers were identified as organizational leaders and managers who had a significant impact on important decisions regarding technology, service development, and other crucial business aspects. The survey took into account a wide range of industries, including manufacturing, technology, and financial services.

The author has selected 4 distinct business parameters that are being influenced by AI for the analysis. Understanding how AI is affecting these parameters will help to paint a clearer picture of how business models and strategies are being affected by AI.

Analysis and Interpretation:

Reliability: The Cronbach's Alpha value for the 15 employees of the different industries along the study's course was determined and it was 0.899, according to the reliability statistics table it is a suitable and confirms that the collected data is approximately 89 percent reliable, As a result, the tool is sufficient reliable for the present study.

Table1: FrequencyTableofGenderClass

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	47	63	63	63
	Female	28	37	37	100
	Total	75	100	100	

Figure1:FrequencyFigureofGenderClass

According to the results presented in Table 1 and Figure 1, the first significant demo Figureic characteristic that was investigated was gender of the participant. The gender distribution in the table showed that, out of 75 survey participants, 47 (63 percent) were men and the rest 28 (37 percent) were women. It showed that there were more men working than women, on average.

Table2: Impact of AI on the economic growth of business

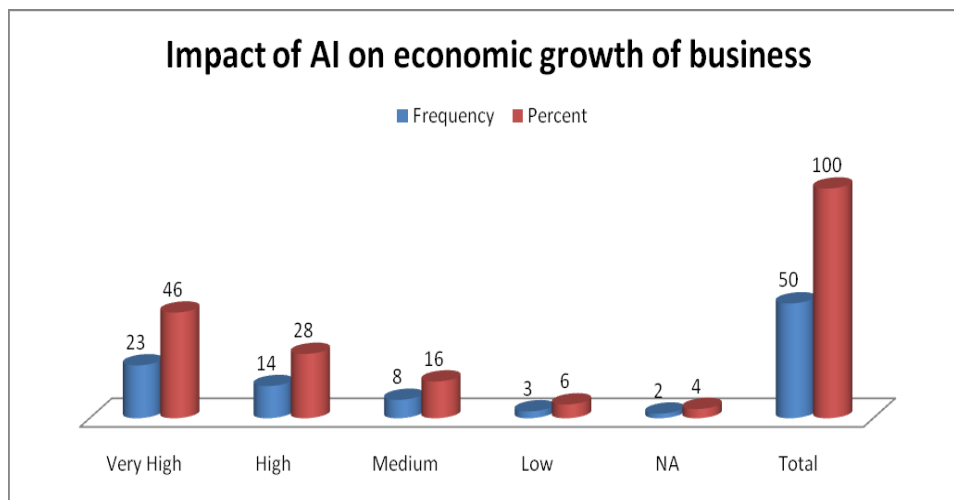|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	36	48	48	48
	High	25	33	33	81
	Medium	8	11	11	92
	Low	4	5	5	97
	NA	2	3	3	100
	Total	75	100	100	

Figure2:Impact of AI on the economic growth of business

Out of 75 respondents, 36 (48 percent) believe that AI will have a very high impact on economic growth, as shown by the table 2 and Figure 2. While 8 (11%) respondents believe that AI will have a medium impact on economic growth, 25 (33%) respondents believe that it will have a high impact. Four respondents (5%) believe the effect is negligible, and the remaining two (3%) did not answer. And according to vast majority of participants, AI has a significant impact on the economic expansion of businesses.

Table3: Impact of AI on cyber-security/privacy

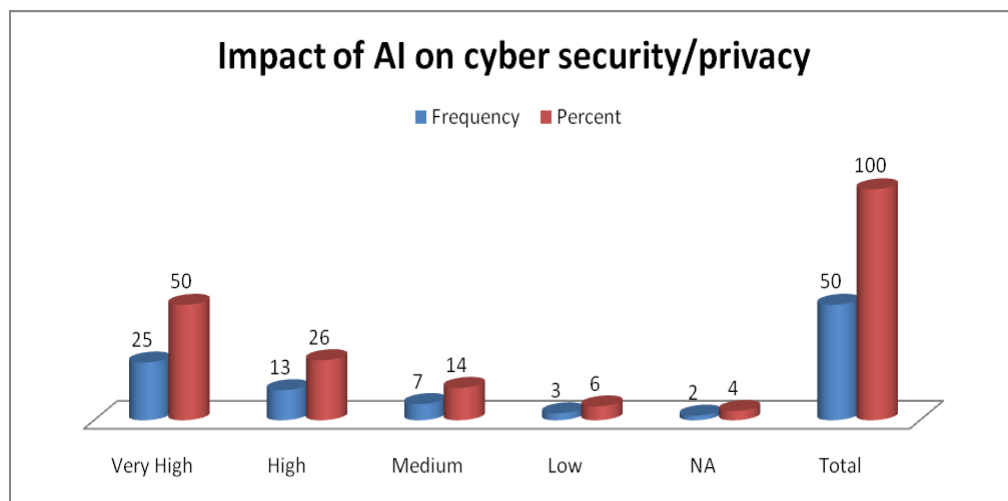|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	32	43	43	43
	High	28	37	37	80
	Medium	9	12	12	92
	Low	4	5	5	97
	NA	2	3	3	100
	Total	75	100	100	

Figure3: Impact of AI on cyber-security/privacy

As shown by the table 3 and Figure3, despite all the predicted advantages of AI for humans, individuals continue to worry about data security and are reluctant to share their data in order to improve their experiences. Nearly all participants (90%) concur that they have serious issues related to data confidentiality and are reluctant to even share medical findings, despite the fact that doing so might help to provide more individualized information about their health.

Table 4: Impact of AI on gender equality

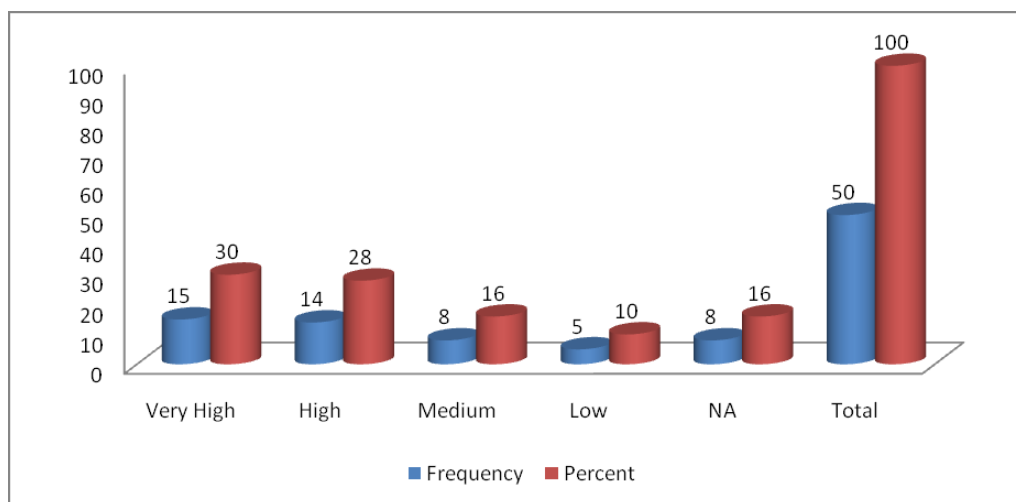|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VeryHigh	30	40	40	40
	High	28	37	37	77
	Medium	8	11	11	88
	Low	2	3	3	91
	NA	7	9	9	100
	Total	75	100	100	

Figure4: Impact of AI on gender equality

As per table 4 and Figure 4, the majority of participants—58 % reported that artificial intelligence as contributing to greater gender equality. Nevertheless, 10% of respondents refuted this fact.

Table5: **Impact of AI on income equality**

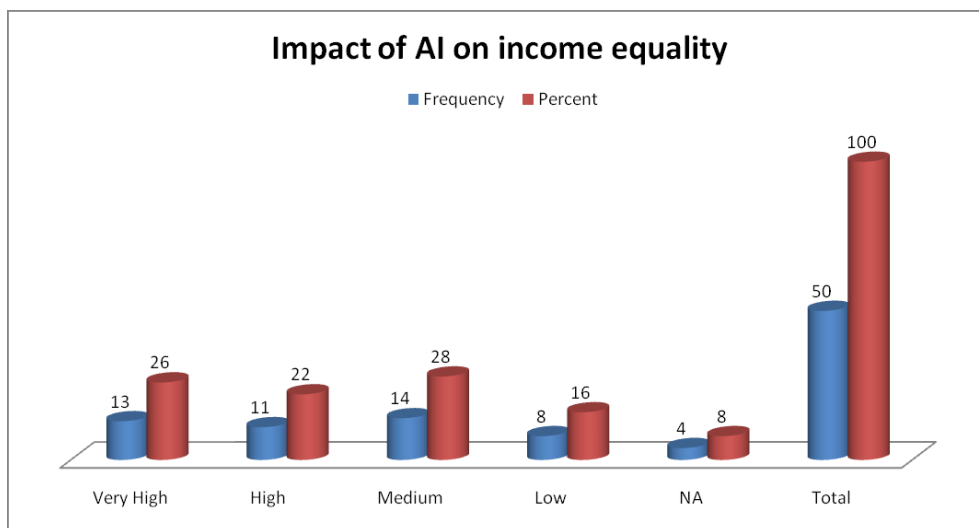|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	28	37	37	37
	High	25	33	33	70
	Medium	11	15	15	85
	Low	8	11	11	96
	NA	3	4	4	100
	Total	75	100	100	

Figure5: Impact of AI on income equality

According to the table 5 and Figure 5, almost 48% of participants agreed that AI plays a crucial role in the issue of income inequality. However, 16% claimed that AI has no impact on income equality.

One-way ANOVA has been used to further evaluate the following hypothesis in order to determine the significant impact of AI on business parameters.

Hypothesis:

H_{01}: There is no significant effect of AI on economic growth of business.

H_1: There is significant effect of AI on economic growth of business.

H_{02}: There is no significant effect of AI on cyber-security/privacy.

H_2: There is significant effect of AI on cyber-security/privacy.

H_{03}: There is no significant effect of AI on gender equality.

H_3: There is significant effect of AI on gender equality.

H_{04}: There is no significant effect of AI on income equality.

H_4: There is significant effect of AI on income equality.

Table 6:ANOVA

		Sum of square	df	Mean square	F	Sig.
Impact of AI on economic growth of business	Between groups	2.063	1	2.063	2.308	0.02
	Within groups	47.937	48	0.894		
	Total	50	49			
Impact of AI on cyber security/privacy	Between groups	2.481	1	2.481	2.612	0.042
	Within groups	47.519	48	0.95		
	Total	50	49			
Impact of AI on gender equality.	Between groups	2.182	1	2.182	3.554	0.062
	Within groups	47.818	48	0.614		
	Total	50	49			
Impact of AI on income equality.	Between groups	1.984	1	1.984	3.386	0.037
	Within groups	48.016	48	0.586		
	Total	50	49			

The variation (Sum of Squares), degrees of freedom (df), and variance (Mean Square) for the within and between groups, as well as the F value (F) and the significance (Sig.) of the F value, are provided in the table 6. Significance indicates whether or not the null hypothesis — that the population means are equal — has been rejected.

Table 6 demonstrates that there is a substantial difference between the Mean Squares(2.063&0.894, 2.481&0.95, 2.182&.614 and 1.984&.586); however, the difference is not statistically significant (F=2.308;Sig.=0.02, F=2.481; Sig.=0.04,F=3.554; Sig.= 0.062,andF=3.386; Sig.= 0.037).

Table 7:

S. No.	Hypotheses	Difference	Result
1.	H01	Significant	Rejected
2.	H02	Significant	Rejected
3.	H03	Non- Significant	Accepted
4.	H04	Significant	Rejected

The Sig. value is less than the Sig. threshold of 0.05 for Hypotheses H01, H02, and H04; therefore, these hypotheses must be rejected and their alternatives are not rejected, which state that AI has a significant impact on economic growth of businesses, cyber security/privacy, and income equality. In contrast, H03 must be accepted because the sig value is greater than 0.05, indicating that AI gender equality has no significant impact.

Conclusion:

As demonstrated, AI has the power to revolutionize business with the aid of cutting-edge technological advancements and cutting-edge scientific knowledge. AI has profound effects on governments, society, businesses, and individuals. Through automation and data analysis, AI has proven beneficial for businesses as it improves productivity, decreases time and expense, minimize mistake, accelerates decision-making, predicts consumer trends, and boosts sales.Given that AI is widely accepted and there is a shortage of experts, there are opportunities for AI-based solutions to transform the workplace and fill the talent gap. In general, people tend to think that humans make mistakes more frequently than AI systems, and that when AI systems malfunction or fail, it is the designers and managers'

fault.In fully autonomous AI applications, where pace and reaction times are vital and AI systems can only act as intelligently as they have been configured, this is crucial. Thereby, we can conclude that AI has a substantial effect on business economic growth, cyber security/privacy, and the attainment of income equality andAI has the potential to improve business models worldwide. In the future, artificial intelligence will continue to expand and transform the business landscape. To be successful in the future, people and businesses must therefore be prepared for the future demands of technology by embracing innovation.

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