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The Impact of artificial intelligence and automation on businesses processes and employment: An analytical study

PRAMATHA SAHA,
Department of School of Management Studies, Graphic Era Hill University,
Dehradun, Uttarakhand, India 248002,
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Abstract
The ramifications of artificial intelligence (AI) and automation on commercial processes and employment have been extensively deliberated in scholarly literature. The assimilation of these technologies has engendered enhanced efficiency, amplified productivity, and curtailed expenses for enterprises. Nevertheless, the literature also illuminates the potential for job displacement, modifications in the character of labour, and ethical quandaries.
Several studies have examined the impact of AI and automation on specific industries, such as manufacturing, healthcare, and finance. The literature suggests that these technologies have the potential to disrupt these industries and change the skill requirements for workers.
The literature also highlights the need for businesses to adapt and upskill their workforce to remain competitive in an increasingly automated environment. The importance of developing ethical guidelines for the use of AI and automation has also been emphasized in the literature.
Keyword- Artificial Intelligence in business, Machine learning on job, Automation in business.

Introduction

The rapid proliferation of automation and artificial intelligence (AI) has led to a transformative shift in the way businesses operate and work is executed.
According to Wilson, Daugherty, and Bianzino (2017) these innovative technologies possess immense potential to mechanize mundane, repetitive activities, amplify overall productivity, and curtail costs. Despite these benefits, their ubiquitous adoption engenders anxieties regarding their impact on employment opportunities, requisite skills, and ethical implications.
The literature on the impact of AI and automation on businesses and employment is extensive. Inquiries have been made into the impact of these technological advancements in specific fields such as the manufacturing, healthcare, and finance sectors.
Kokina and Davenport (2017) found that in the manufacturing industry, for instance, the utilization of artificial intelligence and automation has facilitated an escalation in operational efficiency, amelioration of quality control, and curtailment of excess. However, this has also engendered redundancy of employment, specifically for laborers involved in recurrent and mundane task. The literature also highlights the potential for AI and automation to change the nature of work and the skills required for certain occupations. In healthcare, for example, AI and automation have the potential to improve patient outcomes by enabling more accurate diagnoses and personalized treatment plans. However, this requires healthcare workers to develop new skills in data analytics and machine learning.

Makridakis (2017) the moral and philosophical implications of artificial intelligence and automation have been extensively debated in scholarly literature. Issues regarding confidentiality, prejudice, and answerability in decision-making procedures have been brought up. Hence, the establishment of ethical principles that govern the application of AI and automation has gained increasing significance.
The literature suggests that the impact of AI and automation on businesses and employment is complex and multifaceted. While these technologies have the potential to bring significant benefits, businesses and policymakers must carefully consider the potential implications for the workforce and society as a whole. Further research is needed to fully understand the long-term effects of these technologies on the economy and employment.

Literature review

The impact of AI and automation on businesses and employment is complex and multifaceted, with both benefits and challenges.
Ransbotham, Kiron, Gerbert, and Reeves (2017) found that the unparalleled ability of artificial intelligence (AI) in executing intricate computations and analyses with unmatched precision renders it a pivotal player in the realm of business processes. By leveraging AI technology, businesses can optimize their output quality and avert critical decision-making mishaps.

Deutsch, Hull, Patrizi, & Vianu, (2009) before the advent of AI, human employees were tasked with performing complicated calculations and analysing substantial quantities of data. Regrettably, this undertaking was quite arduous and error-prone, particularly when handling voluminous data sets. Conversely, AI algorithms have the wherewithal to process vast data quantities with unparalleled speed and accuracy, curtailing the likelihood of human blunders and bolstering the calibre of output.AI has the capacity to assist organizations in uncovering intricate patterns and trends that may elude human detection.

Brynjolfsson & Mitchell, (2017) found that by meticulously analysing vast quantities of data, AI algorithms can expose subtle connections and patterns that might escape even the most proficient human analysts. This can enable businesses to make more knowledgeable decisions and anticipate future requirements, thereby increasing their overall competitiveness.

Furthermore, AI has the potential to automate mundane, error-prone tasks that humans typically perform. In the realm of finance and accounting, for example, AI can be utilized to automate tasks such as account reconciliation and the identification of anomalies in financial data. This can afford human workers more time to concentrate on tasks that demand ingenuity and strategic thinking, thus augmenting their value.
Sadiq, Governatori, and Namiri (2007) found that as artificial intelligence and automation gain traction in certain industries, they may displace human workers but also offer fresh job opportunities in AI development, data analysis, and robotics. The more these technologies progress, the higher the demand will be for skilled workers with specialized knowledge in

these areas.AI development is a swiftly expanding field encompassing the design and construction of AI systems and applications.

LaValle, Lesser, Shockley, Hopkins, and Kruschwitz (2010) found that the surge in AI use across various industries and society at large is likely to lead to an uptick in the need for skilled AI developers. This presents a promising opportunity for workers possessing expertise in machine learning, natural language processing, and computer vision.
AI and automation are paving the way for new job opportunities in the realm of data analysis. The exponential growth in data generated by both businesses and individuals has sparked an increased demand for individuals skilled in data analysis and interpretation.

While AI can aid in analysing vast amounts of data to identify patterns and trends, it still necessitates human expertise to decipher the results and make informed decisions based on the insights obtained. Robotics is yet another domain where AI and automation are creating new prospects.

As robots become more sophisticated and capable of performing a wider array of tasks, there will likely be a growing demand for individuals possessing skills in robotics design, programming, and maintenance. This presents a chance for individuals with a background in engineering, computer science, and related fields to make significant contributions to the field.

Integrating artificial intelligence (AI) and automation into existing business processes poses a formidable challenge for numerous organizations. The process of assimilating these advanced technologies demands a considerable investment in new hardware, software, and employee training. Furthermore, there are a plethora of other intricate obstacles related to this procedure that necessitate a high level of contemplation.
The need to restructure existing operations and workflows is among the foremost challenges associated with AI and automation integration. Multiple businesses have established procedures and practices that have persisted for several years, and fusing AI and automation into these systems may mandate significant transformations. This can prove to be a time-consuming and resource-intensive task that could compel businesses to reassess their entire organizational structure.

Integrating AI and automation into business operations presents a formidable obstacle in the form of procuring new hardware and software. Due to the need for substantial investment in these technologies, many businesses may struggle to meet the necessary infrastructure requirements. This challenge is particularly pronounced among small and medium-sized enterprises that have limited financial resources.

Furthermore, it is imperative that employees receive adequate training to effectively implement and operate AI and automation systems. Given that these technologies are unfamiliar to many workers, training may entail a time-consuming and expensive process that

necessitates significant investment in employee development. Additionally, the successful integration of AI and automation is contingent on ensuring compatibility with existing systems and processes. Thus, meticulous planning and coordination are essential to guaranteeing that these technologies function seamlessly with established workflows.
Artificial Intelligence (AI) offers businesses various benefits, among which is predictive analytics. AI can scrutinize vast quantities of data to detect patterns and trends that may not be perceivable by human analysts. This, in turn, enables organizations to make well-informed decisions and anticipate future requirements.

The capability of predictive analytics to identify patterns and trends in voluminous datasets is a significant advantage. Its applications are especially advantageous for businesses that generate a substantial amount of data, such as those in the finance, healthcare, or retail sectors. By analysing data with AI, businesses can pinpoint trends and patterns that may not be readily noticeable, thereby providing insights that inform decision-making.

Predictive analytics offers an added benefit of proactively identifying future needs through the scrutiny of past performances. AI-driven analysis can aid businesses in forecasting potential demand and pre-empting customer requirements. This feature proves especially valuable for enterprises operating in volatile markets or experiencing irregular fluctuations in demand. Predictive analytics can also enhance business optimization and increase efficiency by dissecting data concerning production processes or supply chains. For instance, AI can pinpoint areas for improvement such as waste reduction and streamlined logistics, translating to reduced costs, improved efficiency, and elevated customer satisfaction.

Another benefit of predictive analytics is its capacity to discern prospective hazards and opportunities. Mullainathan and Spiess (2017) found that by scrutinizing data on market tendencies, consumer conduct, or rival activities, AI can assist businesses in identifying potential hazards or opportunities before they are evident. This can help businesses pre-emptively address potential predicaments and take advantage of emerging prospects. Nevertheless, there are also predicaments linked with the utilization of predictive analytics in commerce. For instance, the calibre of data utilized to inform AI systems is indispensable to the precision of forecasts. Data must be precise, pertinent, and equitable to guarantee that AI systems provide accurate discernments.
In addition, businesses must also consider ethical concerns related to the use of predictive analytics, such as issues related to privacy and bias. For example, if AI is used to make decisions related to hiring or promotions, bias in the data used to inform these decisions can lead to unintended consequences.

In today's rapid marketplace, the capacity to swiftly develop and release fresh products and services is paramount for companies to retain their edge. By promoting innovation and expansion, businesses can maintain a lead over their rivals and satisfy the ever-changing demands of their clientele. Agile methodologies are one approach to achieve this. These methodologies prioritize adaptability and swiftness in the development process. Breaking

down assignments into smaller, more manageable tasks and continuously testing and revising them enables rapid detection and resolution of any obstacles or setbacks.

Another strategy to expedite innovation and expansion is the utilization of modern technological tools and platforms, such as cloud computing, artificial intelligence, and machine learning. These tools aid in streamlining business processes, automating repetitive duties, and making data-driven decisions. Companies can exploit the advantages of partnerships and collaborative efforts to speed up the pace of innovation and expansion. By teaming up with other businesses, startups, or even academic institutions, companies can access new concepts, technologies, and expertise that they would not have otherwise. must establish an organizational culture of innovation and experimentation. Encouraging and empowering workers to take risks, experiment with new ideas, and learn from failure are all part of cultivating such a culture. By encouraging innovation, businesses ensure that they are continuously exploring new opportunities and keeping ahead of the curve.

Objectives of the study:

To find the impact of artificial intelligence and automation on businesses processes and employment

Research Methodology:

This study is empirical in nature. In this study 180 respondents were contacted to give their viewpoints on the impact of artificial intelligence and automation on businesses processes and employment. The data analysis was done with the help of the frequency distribution and pie charts were used to present the data.

Data Analysis and Interpretation:

Table 1 AI has reduced the human errors to process vast data quantities

Particulars	Agree	Disagree	Can't Say	Total
Respondents	153	19	8	180
% age	85.0	11.0	4.0	100

Table 1 presents that with the statement **AI has reduced the human errors to process vast data quantities**, it is found that 85.0% of the respondents agree with this statement.

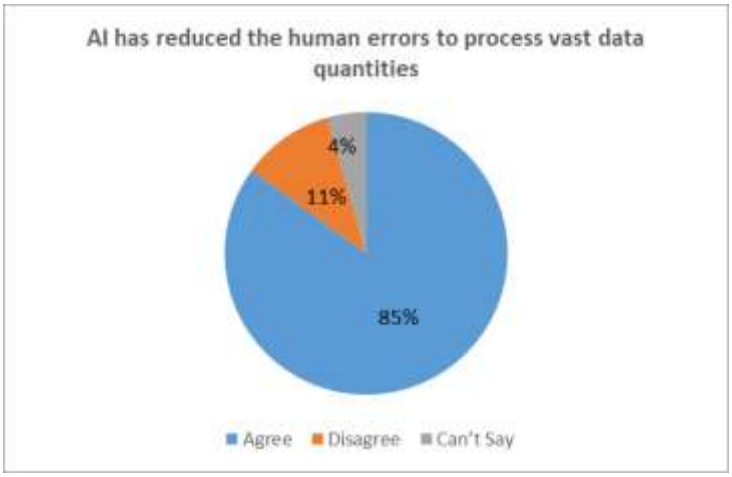

Figure 1 AI has reduced the human errors to process vast data quantities

Table 2 AI and automation are help in creating new job opportunities in the realm of data analysis

Particulars	Agree	Disagree	Can't Say	Total
Respondents	157	16	7	180
% age	87.0	9.0	4.0	100

Table 2 presents that with the statement **AI and automation are help in creating new job opportunities in the realm of data analysis,** it is found that 87.0% of the respondents agree with this statement.

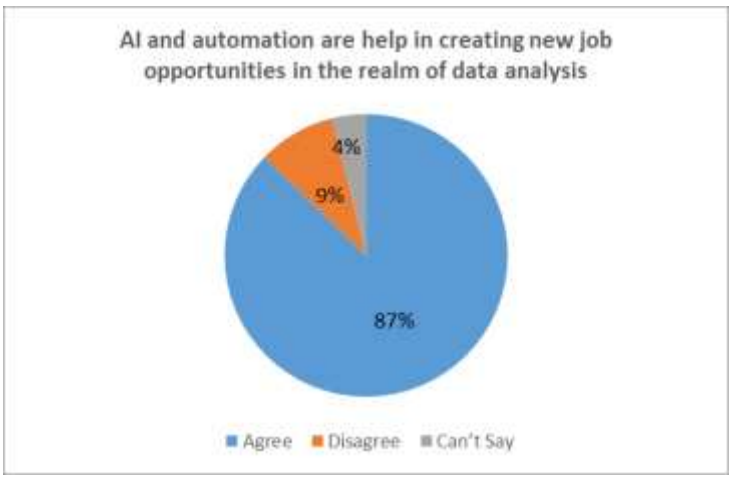

Figure 2 AI and automation are help in creating new job opportunities in the realm of data analysis

Table 3 AI increase overall competitiveness among businesses

Particulars	Agree	Disagree	Can't Say	Total
Respondents	163	13	4	180
% age	91.0	7.0	2.0	100

Table 3 presents that with the statement **AI increase overall competitiveness among businesses,** it is found that 91.0% of the respondents agree with this statement.

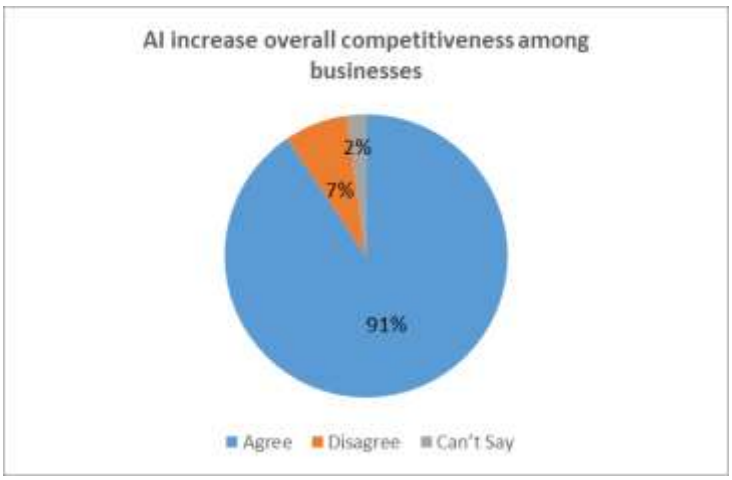

Figure 3 AI increase overall competitiveness among businesses

Table 4 AI and automation are creating new prospects of Robotics

Particulars	Agree	Disagree	Can't Say	Total
Respondents	147	23	10	180
% age	82.0	13.0	5.0	100

Table 4 presents that with the statement **AI and automation are creating new prospects of Robotics,** it is found that 82.0% of the respondents agree with this statement.

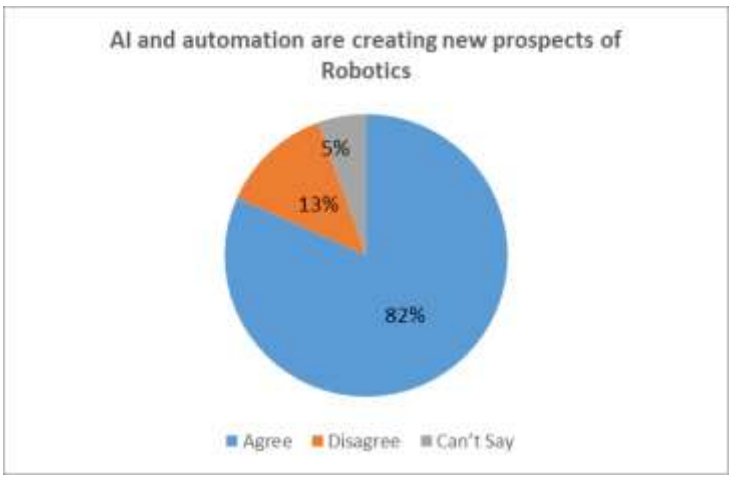

Figure 4 AI and automation are creating new prospects of Robotics

Table 5 AI can automate tasks in financial data

Particulars	Agree	Disagree	Can't Say	Total
Respondents	160	21	9	180
% age	84.0	11.0	5.0	100

Table 5 presents that with the statement **AI can automate tasks in financial data,** it is found that 84.0% of the respondents agree with this statement. Considering all the responses of the statements, it was found that to a good percentage, the respondents have agreed which means

that relationship between employee training and development is important for organisational performance.

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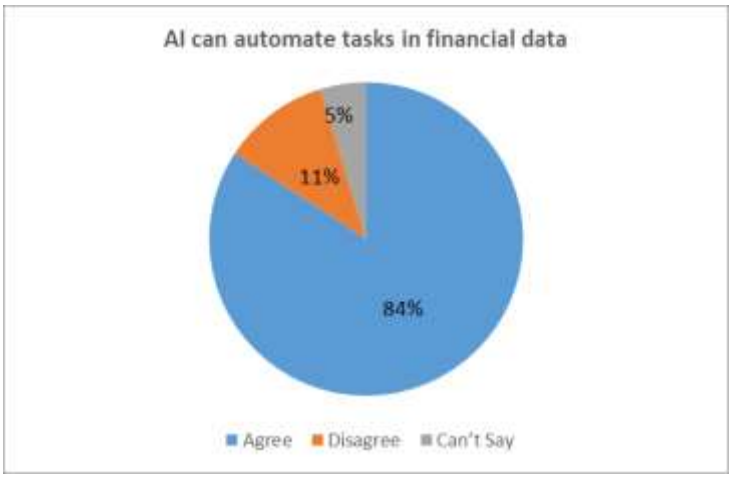

Figure 5 AI can automate tasks in financial data

Conclusion

The repercussions of artificial intelligence (AI) and automation on business procedures and employment have elicited both affirmative and adverse effects. The implementation of these technologies has boosted efficiency, productivity, and profitability for enterprises. In contrast, it has also disturbed traditional job roles and catalysed a shift towards the need for new skill sets. AI and automation have significantly enhanced several business operations, such as customer service, supply chain management, and marketing. They have also permitted businesses to scrutinize copious amounts of data, deriving valuable insights into consumer behaviour, which aids in making informed decisions. Furthermore, automation has enabled businesses to mechanize monotonous and tedious tasks, relinquishing time for employees to concentrate on more intricate and strategic work. Nevertheless, the debut of AI and automation has also caused job displacement, leading to the demand for new expertise. Numerous industries, including manufacturing and retail, have encountered significant employment reduction due to automation, culminating in augmented apprehension about income inequality and job insecurity. It is thus critical for businesses and governments to take a proactive stance towards addressing the challenges and opportunities presented by AI and automation. This can be achieved by investing in reskilling and upskilling programs that equip employees with new capabilities requisite in the digital era. Governments can also offer policies and incentives that promote the responsible use of AI and automation, ensuring that these technologies benefit society as a whole.

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