Examining Artificial Intelligence's Effects on Business Innovation and Growth: A Survey Based Study of Experts Opinion

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Abstract

In the modern world, AI has a crucial effect on business as it is changing the way businesses operate, leading to fresh growth opportunities. Large-scale data processing allows it to better critical performance indicators such as earnings, business growth, efficiency, digital transformation, and sustainability. A thorough survey-based methodology is crucial for uncovering and examining professional viewpoints on AI's impact on corporate innovation and growth. The perceived influence of AI on innovation processes, the identification of the most essential AI applications in business, and potential roadblocks and difficulties related to AI adoption are topics that are relevant for research. There exist a number of important uses of AI, encompassing predictive analytics, machine learning, and natural language processing, which are highly beneficial in fostering innovation and corporate expansion. However, crucial obstacles such as worries about data protection, ethical issues, and the requirement for worker upskilling, must not be disregarded. The expert perspectives on the impacts of AI on corporate innovation and growth are valuable insights that add to the body of knowledge by illuminating the possible benefits and drawbacks of adopting AI and empowering companies to formulate plans and decisions for utilizing AI for creativity and long-term growth.

Keywords: Artificial Intelligence, Business, Growth, Innovation, Survey

Introduction

The development of new technologies, such as the internet and mobile, as well as economic developments and financial crises, supported by shifting consumer behaviors and needs, continue to exert significant pressure on global economies, governments, financial services, and businesses, particularly on the profitability and revenues sides of the financial tables. By having

important effects and repercussions on the world economy, the most recent financial crisis hastened humanity's transition into a new era. The "Digital Age," which was brought in by mobile technologies and the Internet, has demanded businesses to create cloud-based and online stores in order to mobilize their customer bases, dragged governments into launching e-government programs, and forced financial institutions to present themselves on social media, mobile devices, and tablets. Efficiency is created in both corporate and personal life by the significant revolution in conducting a fresh style of business called e-business, which includes e-signature, internet, e-invoice, e-payments, mobile banking, and e-commerce.

On the other hand, the business environment was forced to evaluate big data and respond at the same time using customer relationship management (CRM) systems as a result of the information amount increasing daily. While the digital age and other sciences like genetics, nanotechnology, mechatronics, and so forth represent a step toward "Space Economics," other developments would have a greater indirect or direct effect on economics and business. Robotics and artificial intelligence are the names given to these developments. At the start of the 20th century, business and economics were greatly impacted by production and the supply side of the economy that followed. The advancements of the industrial period and the introduction of automation had an impact on the production factors, such as capital, entrepreneurship, labor force, and land. As a result, lifestyle, education, finance, and management have all altered. White collars and management have taken the initiative to address new concerns and difficulties, which has resulted in the demand for higher education because of the level of quality, decisions, and information of the workforce required.

Artificial intelligence (AI) and robotics are also going to open up new chapters in economics and business. The potential outcomes and repercussions of these effects were discussed by Roubini and Stiglitz in their writings, and in addition to several debates held at the World Economic Forum, papers, and the news are now beginning to be published on related subjects. The rise in the unemployment rate in the economy will be one of the obvious effects.

Literature Review

Artificial intelligence (AI) is becoming more and more significant to our economy. AI has the ability to drive productivity and economic expansion. It can boost decision-making processes' effectiveness and quality and lead to the emergence of brand-new goods and services, markets,

and sectors. The economy and society, however, could potentially be negatively impacted by AI. For instance, there are significant hazards associated with structural unemployment, rising inequality, and the rise of new unwanted industrial structures. While carefully weighing how to address the threats it entails, policymakers must establish the conditions essential for fostering AI's potential. The body of knowledge on AI's economic effects is still young but is expanding quickly. The fact that there is no established framework for analyzing AI and that several methods have been put forth makes it difficult to navigate this literature (Agrawal et al., 2019). Initially, Artificial Intelligence is thought of as a machine learning (ML) based prediction technology. Artificial Intelligence systems can create new information by identifying intricate patterns and structures in sample data using machine learning, a subfield of computational statistics (Taddy, 2019). It is already possible for computers to interpret spoken language, make medical diagnoses, and even operate vehicles. It is challenging to lock down a specific definition of AI due to the technology's diversity.

The definition provided by the OECD is detailed enough to apply to current technology while also allowing for the application of policy: "An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments". AI is also having a significant impact on how well-functioning markets are now operating, changing how effective and efficient competition is, and attracting the interest of security and antitrust authorities. Artificial Intelligence systems are in fact testing the present structure of the market dynamics and the consumer decision-making procedures. The expanded role of data, the extremely powerful economies of scale and scope, and the significant network effects create highly concentrated markets with a small number of dominating firms (Cremer et al., 2019).

There are additional ideas of AI that have been offered in addition to the ML-based strategy, that concentrate on the capacity of computers to learn and anticipate. A more cautious view of AI predicts that people will continue to be better at creative problem-solving for a prolonged time in the future. This vision states that the majority of AI's applications will be for labor augmentation, giving humans insights, counsel, and direction to boost business efficiency. Given that automation is an element that boosts the productivity of conventional production inputs, the

concept of AI and automation share many similarities. By altering the logic of discovery and the execution of innovative activities, AI may also assume the place of human resources in the innovative manufacturing process. AI might serve as a general-purpose "invention of a method of inventing" emphasizing the role of AI in the creative process (Cockburn et al., 2019). They compiled and categorized academic works from 1955 to 2015 and patents from 1990 to 2014 as representational systems, learning systems, robotics, or "general" Artificial Intelligence. By doing so, they make available quantitative proof on the development of these various fields and report an important change in the practical orientation of learning-oriented works, especially after 2009. They contend that artificial intelligence breakthroughs will probably have an impact on the way the innovation process is structured as well since they are general-purpose inventions or method of invention.

Therefore, policies that support openness and sharing of key datasets may be essential tools for boosting research output and innovation-focused competition. Broadly, the layout of the incentives for the growth and use of these technologies should be a concern for policymakers, as should ensuring that various prospective innovators have access to these tools and can use them in a pro-competitive manner. AI can be a significant player in science due to its significance in the discovery process. Agrawal, McHale, and Oettl's (2019) study focuses on its part in assisting human researchers to enhance the mechanism of scientific research discovery. In particular, they formalize the notion that finding valuable combinations in intricate discovery spaces is an issue that data-driven intelligence may address. In fact, the current body of knowledge interacts in extremely complicated ways, resulting in a huge number of new combinations that might be made; these combinations must then be searched for and analyzed to identify those that contribute useful new knowledge. By enabling researchers to recognize useful combinations, meta-technologies like deep learning can speed up the discovery process. AI can increase forecast accuracy and discovery rates, which will hasten growth, by improving access to data and expertise.

Carter (2018) conducted a qualitative primary interview over the phone and an online qualitative and quantitative survey forming the foundation of the 2018 survey. The e-survey contained sixteen questions and was made available through the Business Information Review social media

channels, to leaders and practitioners in the fields of knowledge management and information management, and to the membership of the Chartered Institute of Library and Information Professionals (CILIP). There were 51 completed e-surveys submitted. Inquiries focused more explicitly on artificial intelligence (AI) and whether or not it was having any impact on interviewees' day-to-day activities. Interviewees were questioned on what the next items on their plan for the next twelve to eighteen months were. The discussion then turned to questions about skill sets and how they would need to adjust in light of new technology, as well as problems with data quality, data governance, and data management. The experts' opinions were open and honest, and both the interviews and e-survey participants provided thoughtful, wise, engaging, practical, and useful insights. 33% of participants indicated that their company was changing or being repurposed, 27% of the respondents worked for stable firms, 22% were experiencing development and expansion, and 18% were experiencing downsizing in their organizations, in the e-survey.

The Internet of Things, open access, and artificial intelligence were all ranked highly as being "of interest," and Artificial Intelligence (AI) was not considered "critical" but rather "important" by the respondents. Interviewees were also asked a comparable question about what will happen in the next 12 to 18 months. The subject of developing some sort of AI infrastructure emerged from a variety of answers. For example, one team of early adopters recently underwent a significant upgrade to numerous new AI resources and tools and was fully focused on integrating these resources for the upcoming months. Other early adopters discussed potential tools or upgrades with vendors. Every single expert that participated in the survey agreed that there is the possibility for innovation and transformation to occur in this sector within just a few years through the advancement of artificial intelligence.

Objective of the Study

To measure the Artificial Intelligence's Effects on Business Innovation and Growth

Methodology

In this research, a structured questionnaire was employed to carry out a survey, and various statistical techniques such as mean calculation and t-test were applied to examine the data

gathered from 213 participants. The sampling technique employed in this study was convenience sampling, which involved selecting individuals based on their easy accessibility and voluntary participation.

Table 1 Examining Artificial Intelligence's Effects on Business Innovation and Growth

Serial No.	Statement of Survey	Mean Value	t-value	p-value
1	Artificial intelligence enables businesses to automate repetitive and mundane tasks, allowing employees to focus on higher-value work.	4.35	10.941	0.000
2	AI technologies enables businesses to make data-driven decisions, identify trends, and seize opportunities that may have otherwise gone unnoticed.	4.48	11.864	0.000
3	AI-powered tools enable businesses to understand customer preferences and behavior at a granular level.	4.23	8.618	0.000
4	AI can optimize various business processes, including supply chain management, inventory control, and production scheduling.	4.07	5.748	0.000
5	AI can help identify and prevent potential security breaches by analyzing patterns and anomalies in network traffic.	3.97	4.974	0.000
6	Utilizing artificial intelligence, chatbots have the ability to deliver tailored customer support, resulting in decreased response durations and improved overall customer satisfaction.	4.42	10.979	0.000
7	Businesses can leverage AI to stay ahead of competitors and continuously innovate.	4.33	10.291	0.000
8	AI algorithms can process and analyze large	4.37	11.931	0.000

	volumes of data quickly and accurately.			
9	AI can help businesses personalize marketing messages, and deliver them through the most appropriate channels.	3.75	3.263	0.001
10	The advent of AI holds the power to profoundly transform established business models while simultaneously presenting novel prospects for growth.	4.15	8.537	0.000

Table 1 demonstrates the study "Examining Artificial Intelligence's Effects on Business Innovation and Growth" which analyzed the mean values of different statements. The statement with the highest mean score (4.48) states that AI technologies empower businesses to make data-driven decisions, identify trends, and seize unnoticed opportunities. Following closely is the statement (mean score: 4.42) highlighting that utilizing artificial intelligence, chatbots have the ability to deliver tailored customer support, resulting in decreased response durations and improved overall customer satisfaction. Efficient data analysis, another benefit of AI, received a mean score of 4.37 for the statement emphasizing how AI algorithms can process and analyze large volumes of data swiftly and accurately. With a mean score of 4.35, the statement indicates that AI enables businesses to automate repetitive tasks, freeing up employees to concentrate on more valuable work. Leveraging AI to stay ahead of competitors and foster continuous innovation attained a mean score of 4.33. The statement focusing on AI-powered tools providing a detailed understanding of customer preferences and behavior received a mean score of 4.23. On the other hand, the statement regarding the advent of AI holds the power to profoundly transform established business models while simultaneously presenting novel prospects for growth garnered a mean score of 4.15. The statement expressing that AI can optimize various business processes, such as supply chain management, inventory control, and production scheduling, achieved a mean score of 4.07. Finally, the last two statements scored lower: the statement about AI's ability to identify and prevent security breaches through analyzing network traffic obtained a mean score of 3.97, and the statement concerning AI's contribution to personalized marketing messages delivered through suitable channels received a mean score of 3.75. The t-values in this

investigation were positive and significant, indicating a strong relationship between the variables, with significance values below 0.05.

Conclusion

In conclusion, when analyzing how AI will affect company growth and innovation, it is crucial to consider how it will affect the labor market, productivity, employment, firm structure, and innovation process. By making use of newly available data sources, learning that is enabled by data, and ingrained behavioral biases in humans, AI helps to shape consumer behavior and market rivalry. Artificial intelligence (AI) can be useful to business growth and innovation through the automation of rote processes to free up staff to work on more innovative and strategic projects, making more informed judgments requiring accurate and rapid data analysis, personalizing communications, cutting costs, finding patterns and abnormalities in data helping in fraud detection and prevention, increasing the accuracy and quickness of scheduled repairs in factories and other sectors to cut downtime and costs, spotting developments and possibilities that may be otherwise overlooked, giving a competitive edge, boosting cyber security measures by rapidly and effectively identifying and addressing attacks, and accelerating innovation and growth by enabling businesses to create and implement new goods and services more quickly.

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