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## How Artificial Intelligent Transform Business?

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**ABSTRACT**: In the midst of numerous critiques, artificial intelligence (AI) continues to influence business and nonbusiness environments because of the perception that AI technology will jeopardize people's position in future management and business operations. This article seeks to recognize various approaches by which business is transformed by AI. This paper provides an overview of the business effect of AI through cost savings in business processes, cybersecurity, marketing, creativity and better decision-making by management. AI has many positive effects on overall business activities, and AI management and business investment would boost competitiveness and market leadership.

**KEYWORDS:**Artificial Intelligence, Machine Learning, Decision Making, Automation Artificial Intelligence in Business

#### I. INTRODUCTION

Artificial intelligence (AI) refers to the use of computers and information technology to create machines that can mimic human beings' cognitive abilities. Machines with AI are capable of learning and solving problems and will play an important role in research and manufacturing facilities. Artificial intelligence is still at the stage of development in which machines are equipped with abilities for learning and reasoning that are unique to human beings (Trippi& Turban, 1992). By using algorithms that can discover the pattern and generate insights from data they are given, the provision of machines with the ability to learn is achieved. Algorithms give machines the ability to use learned patterns and insights to make future decisions and predictions. Artificial intelligence in machines is a process that requires a lot of programming to make sure they are efficient for every action and possibility. Therefore, artificial intelligence is a collection of machine learning for performing tasks requiring human reasoning and intelligence. The human intelligence that artificial intelligence can possess involves visual perception and speech recognition (Brynjolfsson &Mcafee, 2017).

Today's technology applications in the business world continue to improve decision-making efficiency and overall business operations. Business management and activities are in a data era, which shapes business operations' day-today processes. Artificial intelligence seeks to leverage the existence of expansive data to encourage the decisionmaking of business intelligence using advanced algorithms that are used to generate insight into future business processes, consumer behavior, and market trends; and to encourage informed decision-making, giving companies a competitive edge over other competitors.

#### II. LITERATURE REVIEW

#### **Business Intelligence Evolution**

Business intelligence data refers to information collected to provide insight into the decision-making of companies. In order to provide better future insights into business decision making, business intelligence has evolved from a reactive orientation to a proactive orientation, which makes it viable to apply artificial intelligence to business data analytics. The high proliferation and use of new data sources, such as smartphones, tablets and devices, has significantly revolutionized the way companies access data and the type of data available. Static reports from business intelligence systems have previously been limited, but the introduction of machine learning has significantly improved the proactive use of data. From a reactive approach to business systems to a more proactive approach, the revolution of business intelligence systems enables date alerts and also real-time insights, allowing business organizations to make better use of data (Liebowitz, 2001).



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#### Different types of AI

AI can currently be categorized into two types, AI weak and AI strong. Weak AI refers to devices that mimic thinking and act as if they were intelligent (Russell and Norvig 2016). Weak AI can emulate human logic through the analysis of large amounts of data (Jarrahi, 2018). The presence of strong AI, on the other hand, would suggest that machines have a conscience and are actually capable of thinking (Russell and Norvig 2016). Weak AI is already present through Machine Learning (Brynjolfsson and McAfee, 2014) and Natural Language Processing in everyday life, for example (Jarrahi, 2018). In practice, strong AI does not exist (Paschen et Al., 2019). Weak AI can serve as a decision-maker when the appropriate decision-making process is reasonable and can therefore be automated and can help the decisionmaker by offering forecasts and proposing various scenarios (Jarrahi, 2018). IBM's Watson, an AI platform combining machine learning and natural language processing, is a real-life example (Jarrahi, 2018). Watson won the TV show Jeopardy in 2011 because of his ability to analyze large amounts of data and communicate using a natural language. A question that arises is what aspects of AI are actually appropriate to address, and whether there is an area or activity that can't be addressed by AI in a business organization. While significant technological progress has been made, in terms of imagination, intuition, and innovation, humans have a comparative advantage (Jarrahi, 2018; Brynjolfsson and McAfee, 2014), so it seemed likely that humans would hold the upper hand in creative creativity. Kaplan and Haenlein (2019) categorize AI into various categories based on their possible business use. There are already the first two forms. The first, Analytical AI, demonstrates characteristics of cognitive intelligence, telling future choices with lessons from the past. The second type, Human-Inspired AI, blends cognitive intelligence with elements of emotional intelligence, where a machine can be programmed to understand human emotions, such as customer experiences, for example. Finally, as Humanized AI, the third form is hypothesized, which would indicate a mixture of cognitive, emotional, and social intelligence.

Today, artificial intelligence is taking over business intelligence applications due to both small-scale and large-scale businesses' easy access to technology. By allowing the automation of production processes, artificial intelligence continues to disrupt industries. Because of their ability to automatically produce highly accurate computations and reports, artificial intelligence apps are being used in financial services. Modern business decision making has been greatly enhanced by artificial intelligence. Previously, leaders relied on unreliable and imperfect knowledge that was still in its rudimentary stages from business intelligence systems. Big data can be chopped into artificial intelligence software and broken down into possible actionable insights that can be used to help executives make more informed decisions. Business organizations can build consumer personas through AI simulations available today that help business organizations sell their goods effectively to prospective customers by predicting customer behavior (Trippi& Turban, 1992). In order to turn company and market data into actionable real-time narratives and analyses, business organizations desperately need AI-powered business intelligence systems.

Today, because of numerous data applications and sources, dashboards are not adequate. Overwhelming the mechanisms of business intelligence. To prevent an explosion of big data, AI should be Used to process the evergrowing knowledge in real time into manageable market insights, which It will assist organizations in making strategic choices. The lack of data analytic expert's skills makes organizations' adoption of AI much more complicated. Intelligence in artificial form Systems will continue to provide a strategic advantage for tech-savvy business organizations. Going forward (Michalski, Carbonell, & Mitchell, 2013).

#### Modern artificial intelligence

We should look at recent editions of this very column to comprehend the relevance of AI to modern technology. In recent columns, inexpensive cloud-based computers, self-driving vehicles, the Internet of Things and the quantified self are only a few of the ideas that have been featured, and the quality of their AI deeply affects these concepts. Perhaps more importantly, without even better AI, many of these innovations won't meet their full potential. Many libraries, for instance, continue to offer advisory services to readers. Advisory service exists in its most conventional form when library staff collect knowledge about the interests and needs of a reader and then, they pick and suggest titles that may also be of interest to the patron, based on the library staff's knowledge of the library's collection, and maybe assisted by some advanced software. Companies such as Netflix and Amazon perform very similar advisory tasks using AI, albeit with some main variations (Hammond, 2015). These interactions take place online, and they are dramatically advanced in the size and speed at which they can perform these tasks. Instead of depending on information requested from the customer, these online advisory services are usually focused on use information created by the activities of the user on their site. Finally, online sellers are beginning to gain the ability to make increasingly sophisticated recommendations by recognizing key factors that inform them about the wider needs of the customer, using the new generation of AI systems. In doing so, they depend on three significant variables that influence modern AI.



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III. THEORETICAL DEVELOPMENT

#### Impact of AI to Businesses

Instead of seeing AI business processes as human beings' substitutes, they can be Seen as tools to help humans. AI can analyze a lot of data more easily than the human brain. And the course of action can be generated by potential observations, which can be used to Enhance systems for corporate decision-making. Unlike other business intelligence programs, all other traditional applications used by AI represents the capacity of AI to make decisions. Enterprises for analyzing data (Brynjolfsson &Mcafee, 2017).

Artificial intelligence is designed to achieve greater business effectiveness by deep learning. Applications for apps that offer real-time insights to business organizations about how Fairing is the business. The implementation of AI in current technology would be substantially Improving business quality, such as the use of humanoid workplace robots for office learning Tasks which work more effectively than human-based work. There are humanoid robots equipped with AI with real-time data processing, which will make data retrieval fast. In addition, the Humanoid robots allowed by AI can be linked to other business systems, which will improve Management's ability to monitor and coordinate the activities of various departments compared to the use of dashboards with business intelligence. The use of deep learning and deep learning

Tensor Flow, which is used to ease the recruitment process by automating the evaluation process Data on work applicants for those who apply via the website of a company by helping to identify eligible applicants with ease. The time-saving application of deep learning AI would aid Organizations quickly identify and employ human capital to boost productivity by helping Reducing the total downtime that can be induced by the shortage of skilled labor (Trippi& 1992 Turban).

Online customer communications management is very dear to any business entity that has created a website or entered into online sales, due to the growth of e-commerce. To control social media contact and to engage online customers, AI-driven chatbots are used. Thus, compared to human-based customer service, chatbots can save time and also respond faster to customer queries. Chatbots are therefore one of the new AI tools that can be used to boost operational productivity and provide a competitive advantage for companies to manage customers and address customer queries promptly (Partanen et al., 2017). Via the deep learning framework, which can build a consumer profile for all online shoppers, deep learning AI apps make shopping more effective and quicker through personalized recommendations. In other situations, business entities use AI software applications, such as deep learning, to increase investment choices that enhance investment decisions for an enterprise and identify potential fraud. The implementation of AIpowered software offers virtual assistance to business organizations in the management of many customers, which is important today for any business model. The chatbots ensure that business organizations in the markets are always online, helping to keep consumers updated with new product details (Liebowitz, 2001).

In today's corporate marketing, knowledge is very important, AI-enabled business intelligence systems can analyze consumer information and provide business insights into the best market goods and services approaches, as well as which products are doing well on the market. Within a short period of time, AI software can quickly analyze Web information and data points. And provide the requisite input that the organization should incorporate in order to enhance Processes for Company (Partanen et al., 2017).

#### Improved Business Security

The high degree of global interconnectedness has made it impossible for many organizations to do this. Protect yourself from cybercriminals who exploit the high number of possibilities and opportunities Objectives. Business organizations should take advantage of the use of new AI to control and safeguard their customers of information and online e-commerce from the increasing threat from cybercriminals. Because of their application of machine learning and AI to industries and business applications, it is possible to use computational resources, data collection, storage and analysis to tame the in a proactive strategy in which security threats are established and identified, cyber criminals and methods before any damage can be done to the client or the company, mitigation can be put in place. Systems and data. Techniques of machine learning and ongoing AI retraining can be used to Remain proactively ahead of what the cybercriminals think. AI may then be extended to increase cybersecurity in a preventative and predictive way through business organizations. Many businesses digital models are completely developed by business entities that run on systems that can Cyber criminals can easily be hacked, which could damage the overall corporate structure. Operations and client trust. When human beings are in charge of the protection of the system, there are many loopholes and gaps that are left due to the human nature of analysts of human security. Without getting tired or being constrained by time, machine learning and AI work, which seals all The potential gaps that cyber criminals would exploit in order to commit cyber crimes, such as fraud, and stealing of information. The use of AI and machine learning can also minimize the overall Danger caused by the difference in skills and the amount of malware that can lie dormant in Business processes that can reduce the vulnerability of businesses until they can be identified the processes (Rajbanshi et al., 2017).



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#### Changes in Customer Relationship Management Software

The amount of data processed by business organizations has increased considerably, and the use of AI plays an important role in improving the management of consumer information and interactions. In the past, cloud computing strengthened customer management by allowing business enterprises to access data and communication networks without having to invest significantly in IT infrastructure. Today, organizations can use AI algorithms to simplify customer engagement platforms by using chatbots, and AI can also be used to analyze and make sense of existing structured and unstructured knowledge in applications for customer relationship management. With the use of AI-powered adaptive intelligence, CRM applications can be more effective in handling customer information and delivering relevant product information that customers need (Partanen et al., 2017).

#### **Reduced** Cost of Labor

Artificial Intelligence is the application of human-like machines in which machines are made to work with human intelligence capabilities. Business companies benefit from the use of computers in that they minimize total operating costs. For any company, reducing operating costs is critical because it can be used to gain a competitive edge in the market. In addition to being used to enhance product contact, AI can be used in customized recommendation systems that can be used to encourage more consumers to purchase goods, improving brand loyalty. Even in the absence of online sales agents, intelligent chatbots may provide customers with the required product details. A company can save money from inefficient marketing practices through the use of AI-driven personalized recommendations. Insights from market prediction generated from the use of AI ensure that market strategists base their decisions on evidence and not on mere fantasies, which helps to maximize the marketing activities of a company. AI runs from day one without making errors and taking breaks, which is cost-effective for a company, unlike highly paying analysts. AI can find business and operational through machine learning inefficiencies, which are expensive. Management should make corrections to the market and manufacturing to Improve production and minimize the additional costs incurred by inefficiencies (Hislop et al., Year 2017).

#### Necessity of human skills

In the innovation process, the displacement of workers has always been a major concern. We have seen so far that every industry wants to grasp the phenomenal opportunity to make their industry an AI market. To meet this demand, there will be a rise in the need for a "new" labor force that in the near future will create, grow and manufacture AI. We used the reports published in January 2018 and 2019 by LinkedIn (a business and employment-oriented service with 500+ million members) to gain insights (Petrone2018, Petrone2019, Pattabiraman2019). For the year 2018, 36% (more than one third) of the skills are AI-related (Petrone2018) out of all the listed top skills, and similar results have been observed for the year 2019 as shown in Table 4 (Petrone2019, Pattabiraman2019). The following table shows the details of the top AI-based abilities, their related work, and the estimated salary provided in the US (in USD) (Pattabiraman2019). Table 4 Descriptions of qualifications, associated positions and wages in the United States (in USD) From a recent report released by IBM, the Burning Glass Technologies and Business-Higher Education Forum (BHEF) (Markow2017) and the AI Index Steering Committee, the level of demand for AI-related skills can be estimated (Shoham2018). According to the study (Markow2017), the amount of work releases would rise by 15 percent by 2020, reflecting about 2.7 million vacancies in the United States alone. In the US, some AI-related jobs (data science and analytics jobs) remain open for an additional 5 to 10 days after the release of the advertising, according to the survey. This is in contrast to other work ads' typical opening days. This is in contrast to other work ads' typical opening days. The situation is caused by the unavailability of the AI-skilled candidates needed. As the employer needs at least a master or Ph.D. degree with an additional 3 years of experience in the relevant field, this demand and supply issue of data professionals will remain for years (Markow2017). This poses a major recruitment challenge and thereby disrupts product growth. The leading global market intelligence company, according to the International Data Corporation (IDC), is also:

"By 2020, 85% of new operational technical position hires will be screened for analytical and AI skills, allowing datacentered DX projects to be developed without recruiting new data-centered talent" (Fitzgerald2017).

35% of employees will start working with bots or other types of AI by 2023, forcing business leaders to reinvent organizational processes, performance indicators, and recruiting strategies. (Murray 2018) Hence, the skills of the future are AI-related skills. There is a need to define and execute plans to plan for the future. A few steps that could be taken to build a wide pool of trained AI practitioners have been commended. Students will be introduced to mandatory data-focused programs at a fundamental level: machine learning and AI courses. It is possible to create data labs at



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educational institutes. Countries such as China have also begun to encourage AI education at their colleges and universities (Xinhua 2018). AI primers should be provided to country leaders, departments and technology heads to build a strong data climate and use AI most effectively; this will make them aware of the capabilities and future benefits of AI-based machines and services. The closure of the gap between higher education and industrial requirements needs attention. Countries should promote research to recognize changes in market demand (Sousa 2019) and equip workers with appropriate professional competencies, such as training courses in fields, to address this issue. Data mining, artificial learning, business intelligence, logical reasoning, machine handling, fundamental statistics and deep learning.

#### Moderator of AI – Globalization

The high interconnectedness of people in the world can be used in globalization as business organizations can benefit from using AI applications, such as machine learning, helping companies grasp business. Globalization calls for a shared approach to communication, made possible by the use of the production of natural language AI and language generation AI, which will increase organizations' ability to exchange goods Data and the penetration of new markets. AI will, therefore, contribute significantly to the Unification of the world through the development of AI technology to support foreign countries Interpreting words. By acknowledging other societies, foreign business organizations, such as Coca-Cola will be able to enter more markets with goods customized to the individual market. Societies. The high demand in the global market for customized experiences can only be high. Achieved if business organizations allow new AI technologies to be implemented in order to understand customer habits and behavior. Company, through the use of AI and machine learning organizations would be able to provide clients with the right material and goods (Liebowitz, In 2001).

Automation of business systems is another significant AI software application since the Industrial revolution, and productivity has greatly increased. In automation from automotive manufacturing and assembly plants to automated hotel booking systems that use automated hotel booking systems advanced robots that work in manufacturing industries are driven by AI software and AI. Most of the in order to increase the routine work and tasks in the production process, automated tasks have been efficiency of production and reduction in production costs. Reduced manufacturing costs as a result of Automation plays a major role in contributing to the strategic advantage of an enterprise. By allowing a company to sell goods at a low price relative to other rivals that offer them they have yet to automate their manufacturing processes. The primary benefit of automation is that an automation system is the company will increase its overall production because the robots do not wear unlike human resources, out or needing refreshment breaks (Hislop et al., 2017).

Compared to human beings, computers are more powerful and reliable and have already been demonstrated in car assembly plants where human labor has been replaced by robots. In this scenario, a lot of human strength is needed by some aspect of car assembly, which leaves employees worn out. When workers are exhausted, they are likely to make errors that can jeopardize the protection of the individuals who will use the assembled product. Robots minimize the high labor costs of short-term shifts used by firms to reduce employees' exhaustion. As a result of the use of robotics in the assembly and other energy-intensive operating incidents, the risk of making errors that can endanger the public is minimized. In this case, the implementation of AI enhances the performance and precision of general operations in industries requiring a lot of energy and manpower. AI should be incorporated by company and production organizations in such a way that it increases employee creativity by leveraging technology by alleviating concerns and ensuring that workers benefit from AI applications. In conclusion, AI has a positive effect on overall business operations and also on market leadership growth. High process optimization can be accomplished by the company organization that implements AI in their operations. By using AI insights to make informed decisions, the use of AI enhances overall decision making within an organization. AI is used in marketing to ensure that marketing efforts by a company are not wasted and product knowledge can reach potential customers. AI has improved business process and manufacturing process automation, reducing total production costs and helping to produce high-quality, massconsumption goods.

#### **IV.CONCLUSION**

We can see that AI, through technological advances, scientific expertise and entrepreneurial practices, is not hype, but has the potential to change the global economy. Two major factors are due to the progressive growth of automation and AI in the last decade: the increasing availability of big data and hardware accelerators (GPUs and TPUs). These forces are responsible for intense automation and networking, making AI the central technology and thus bringing the world into the dawn of the fourth industrial revolution. This will have significant implications for states, economies, corporations, and individuals. The extreme high capacity of intelligent agents (IA) offers opportunities for process innovation as well as product innovation in various sports, recognition and classification tasks. This will contribute to the advancement of assistive devices and goods for people with disabilities and the elderly. This also supports the toy



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and gaming industry, which will improve the entertaining experience and enhance children's cognitive & emotional intelligence. In conclusion, the presence of autonomous technology in almost every sector and the launch of a large number of machines and services based on AI will enhance health, educational opportunities, safety, transport, defense, trade and every other aspect of life. There are, however, some security, privacy and ethical issues associated with the use of AI technology that require a great deal of attention. As a result of the adoption of multiple strategies by corporate companies (companies and start-ups) to become AI companies, the process of innovation and global competitiveness is strengthening. The real goal is to develop and win the technological race with AI's most advanced technology. Our research shows the top sectors of automation and AI that will generate more opportunities in the near future. Healthcare, cybersecurity, core AI, marketing & sales and business intelligence. In the last 8 years, the upward trend of investment in automation and AI clearly suggests that it has the ability to alter the economy. We can see, however, that the AI is limited only to the formation of a "AI divide" in a few regions around the world. This divide would be expanded by the further development of technology in AI-enabled countries and the non-participation of other countries. Like the digital divide, this divide would exacerbate economic, cultural and social inequality; it would create a chasm.

We see the difference as the "dark side" of AI. The state-of-the-art of science, innovation and market implementation of automation and AI was provided by our three-dimensional analysis. It also provided a deeper understanding of how AI can change the markets, transform the processes of innovation, R&D organization, business processes, and the global economy. Awareness in all these fields would make stakeholders aware of AI's growth and adoption in the near future. This will also help policymakers recognize issues and explore the legal and ethical corners of the AI sector. In conclusion, AI would have a profound positive effect on education, living conditions, health and industry, but efforts need to be promoted to explore ethical concerns and reduce the difference between countries in AI.

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