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The Increasing Potential of AI in Businesses

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ABSTRACT

Modern digital conditions that keep changing require businesses to integrate Artificial Intelligence (AI). The essentiality of AI in businesses for competitive advantage and operational efficiency cannot be overemphasized. In this regard, this study explores how businesses are using AI as a tool for improved productivity, customer experience enhancement, decision making among other aspects that contribute towards their overall performance growth. Artificial intelligence is now changing the way we do business by enabling us handle massive quantities of data, automating processes and providing insights which can be acted upon. The paper also looks at how quickly AI technology has grown; this is clear from the fact that there has been an investment boom in AI tech and it's being adopted faster than ever before. Besides improving operational efficiency AI also helps in improving competitive advantage.

Keywords: Artificial Intelligence, Business, Growth, Technology

I. INTRODUCTION

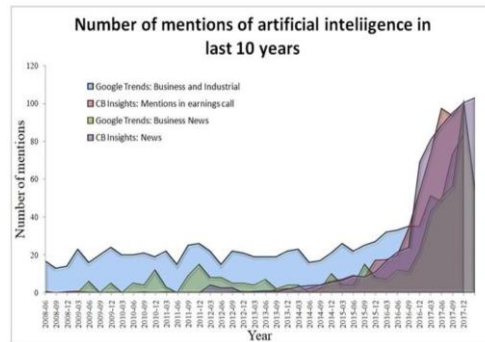
Andrew Ng once said "Artificial intelligence is the new electricity." (Soni et al 2019) ⁱIn today's rapidly evolving digital landscape, the integration of AI (artificial intelligence) into businesses has become paramount for achieving competitive advantage and operational efficiency. With its ability to analyze vast amounts of data, automate processes, and generate actionable insights, AI is revolutionizing traditional business models across various industries. From enhancing operational efficiency to unlocking unprecedented insights, the adoption of AI technologies is not merely a trend but a fundamental shift in the paradigm of organizational dynamics. The illustration (Fig.1.1) below has been obtained via Google Trends and CB Insights.

The results shown below emphasize that from the year 2016, there has been a sudden increase in the number of mentions of the word "artificial intelligence" in business news and its search frequency on the web. "The increase in popularity of AI has led to an expansion in the investment in multiple sectors of AI including research, development, marketing and production and vice versa"ⁱⁱ As we delve into this research paper, the objective is to analyze the multifaceted role of AI in businesses, examining its impact on productivity, customer experience, decision-making processes and the overall growth performance of businesses, Exploring the Ethical Implications of AI in Business.

To begin with, AI as known as artificial intelligence encompasses a broad spectrum of technologies and techniques which enable machines to perform tasks that would have otherwise required human intelligence. Bringing ease, with lesser pressure on the use of human intelligence in completing tasks, AI is resulting in a smarter, enhanced, and innovative world. Artificial Intelligence is helping us in the most subtle way possible. From assisting us in navigating roadmaps and traffic by Google Maps, price estimation of rides by Uber and other taxi services, friend's tag suggestions on social media platforms, spam filters in our inboxes to recommendations on what to shop online based on our previous searches. All of these are just a few examples of how artificial intelligence is simplifying our lives.

According to the 2018 CSIS report, "Narratives on the use of AI in the United States often follow one of two themes. One theme asserts that *we are still waiting for AI, that it is coming but it is not here yet*. Comparatively, the second theme states that *AI is already here and is more prevalent than is immediately apparent*,"

With the current use of AI,, the truth as it stands currently might be somewhere in the middle. AI is being used to automate mundane tasks at a speed that is revolutionary and AI capabilities are advancing at a pace that was unimaginable a few years ago. But simultaneously it has also become an arbitrary buzzword applied to even the simplest Machine learning Mechanisms.



Overall, the rise of AI in business has had significant implications for productivity, customer experience, decision-making processes, and overall growth. The integration of AI in businesses has led to increased productivity, improved customer experience, streamlined decision-making processes, and overall growth (Saxena, 2020). AI has the potential to greatly enhance productivity in businesses by automating repetitive tasks and freeing up human employees to focus on more complex and strategic work.. (Zhang et al., 2023)

Keeping Pace With AI

The rapid enhancement and development of AI is continuously reshaping business models as well.”This technological advancement, attributed to AI, would facilitate human-to-machine interactions, change the logic of business models, and transform the lifestyle and living standard of the human.” (Gartner 14)

According to Zapanta “54% of leaders quote AI as having increased productivity within their business already and 64% of B2B marketers consider AI a valuable asset to their marketing and sales strategies”. “According to Grand View Research, the global artificial intelligence (AI) market was valued at U.S. \$93.5 billion back in 2021. From 2022 to 2030, the market is expected to grow at a compound annual growth rate (CAGR) of 38.1%. This growth can largely be attributed to the “continuous research and innovation directed by the tech giants who are driving the adoption of advanced technologies in industry verticals, such as automotive, healthcare, retail, finance, and manufacturing.” (Boyer)

Considering the development of AI, the global market of AI is estimated to grow to U.S.\$103 billion by 2027. Essentially it is correct and safe to say that without the assistance of AI, human-led analysis will not be able to keep up. “Artificial intelligence can think faster than a human can due to its deep-learning algorithm maps. So the answer to why AI?” is simply - because it makes perfect business sense, especially if you don’t want to be left behind in the digital economy. (“Artificial Intelligence Market Size And Share Report, 2030”).

The question then becomes what should a company or an individual do with the time saved. In an ideal world Advancement of AI would allow for more rest and recreation for individuals. Or at the very least allow them to perform far more meaningful tasks but as it stands today this isn’t necessarily true. As it stands currently we are at that awkward stage where growth in one area might mean displacement in another. There are clear benefits in terms of productivity and profit generation but the commensurate human benefits are yet to be seen

AI is revolutionizing the healthcare industry by enabling more accurate diagnoses, personalized treatment plans, and drug discovery processes. According to a report by Accenture, "key clinical health AI applications can potentially create \$150 billion in annual savings for the United States healthcare economy by 2026" (Agarwal et al. 2). However, the integration of AI in healthcare also raises concerns regarding data privacy, ethical implications, and the need for regulatory frameworks.

AI helps businesses or startup ventures grow leaps and bounds

“AI technology is applied across a wide range of industries across a spectrum of technological capability, from agriculture, pharmaceuticals, and travel.” (Bessen 2018). The integration of AI technologies in businesses has yielded tangible benefits across various functions and departments. Leveraging machine learning allows organizations to extract value in new ways out of source data, from text to images, video, and audio, to name a few. AI tools are allowing organizations to collect and analyze large sets of data hence leading to faster data-driven decisions with greater accuracy and efficiency. Automation of routine tasks through AI-drive systems is

freeing up human resources for more strategic initiatives, thereby improving the overall productivity of the firm. AI is providing enormous help to businesses by creating algorithms that help them track customer behavior. These trackers can measure the time the user spends on a specific website, ad, video, or social media post, what the user searches on Google, and what they click on- allowing businesses to analyze individual and market preferences or behaviors to create more effective and appealing products. This further helps the business develop better marketing strategies and create advertisements that may help promote their product and increase their sales. According to Maria Carpena, *15% of B2B markets in the U.S. said that chatbots helped them increase their lead generation by more than 30% and 90% of marketers in 35 countries used AI tools to automate customer interactions.* (Carpena 2024) The increase in marketing skills and promotions has helped businesses grow significantly and become profitable. This has become a hallmark of successful businesses in the digital age.

Moreover, according to Tony Zapanta “Startup businesses who used artificial intelligence received more than \$7.4 billion in funding during Q2 2019” and “The adoption of AI in recruitment has resulted in a cost reduction of 75% per resume screen, 4% increase in revenue per employee and a 35% reduction in employee turnover.” (Zapanta 2023) So while we don’t know the full human costs of this emerging technology it might be unfair to say that “AI is out to get human jobs”. (“AI In Numbers: Global Funding, Exits, And R&D Trends In Artificial Intelligence”) It might be worthwhile to look at such a claim in greater detail.

Is Artificial Intelligence a threat to human capital?

The integration of Artificial Intelligence (AI) technologies in Human Resources (HR) has significantly transformed traditional HR practices, but it has also introduced complexities and challenges that have contributed to a nightmare scenario for HR professionals. While AI tools offer the potential to streamline recruitment, improve employee engagement, and optimize performance management, they also raise concerns about bias, fairness, transparency in the decision-making process, and job displacement. *According to a survey conducted by Gartner, by 2022, 23% of organizations will use AI in their HR processes, with an additional 22% planning to implement AI within the next 2 years.* However, despite the potential benefits, AI-driven decision-making in HR has gone through criticism for perpetuating existing biases present in training data and algorithms, leading to discrimination in hiring and performance evaluations. Thus, while AI holds promise for revolutionizing HR, its implementation requires careful consideration and regulation to mitigate unintended consequences and ensure fairness and equity in the workplace. One also must keep in mind the biases that are inherent to the data set that went into training the AI, especially in instances where it is being used to prescreen candidates. AI is transforming the way HR operates, offering benefits such as streamlining processes and improving efficiency (Hemalatha et al 2021). However, it is important to consider the potential negative impacts and challenges associated with AI in HR. While AI promises increased efficiency and productivity, there are concerns about its potential impact on employment and job displacement. A report by the World Economic Forum estimates that “by 2025, the time spent on current tasks at work by humans and machines will be equal” (Cann 4). This highlights the need for reskilling and upskilling initiatives to prepare the workforce for the AI-driven future.

Training people to adapt to AI

However, as stated before, the use of AI is changing the lifestyle of consumers/customers which is simultaneously changing their demand and putting external pressure on startups to adapt to AI and create more effective products. The adoption of artificial intelligence (AI) is slightly harder for startup ventures. Startups typically operate with limited financial resources and manpower compared to larger, established enterprises. Implementing AI requires a significant amount of finance or investment in infrastructure, talent acquisition, and training which can create a strain on the time and resources of the startup. Moreover, AI technologies heavily rely on large volumes of high-quality data to train algorithms and make accurate predictions or suggestions. Recruiting and retaining skilled AI professionals and integrating AI technologies into existing workflows and systems can be complex and time-consuming processes for startups. According to 2018 CSIR report “Adopting AI requires more than just algorithms. Organizations must grow an AI ecosystem within the environment in which the algorithms live. This includes a capable workforce, foundational data practices and structures, computing and networking infrastructures, and a deployment strategy that articulates the applicability of AI to problem sets.”

To survive and thrive in this AI-driven economy, it is crucial for startups to invest in building an AI ecosystem within their organizations. This includes acquiring the necessary talent, establishing data management practices, integrating AI technologies into workflows, and developing a strategy for effective deployment. Additionally, startups must prioritize training and upskilling their employees to adapt to AI technologies. This will ensure that they can effectively collaborate with AI systems, leverage their capabilities, and contribute to the overall success of the organization.

This is especially true for India. “India must view machine intelligence as a critical element of its national security strategy. At a time when AI is being viewed as a key component of foreign

policy between the United States and Japan, with similar proposals of treatment being floated in India, the Indian government must formulate a national strategy on emerging technology trends with long-term strategic consequences. India must seriously evaluate the DARPA model of defense research in conjunction with private sector and university collaboration in order to create

dual-purpose technologies" (Vempati, 2016)

To fully realize the potential of AI and position itself as a leader in the global AI landscape, India must adopt a comprehensive national strategy that includes investment in research and development, education and skilling programs, infrastructure development, and collaboration between the government, private sector, and academia. This will enable India to harness the power of AI for national security, economic growth, and societal development. To fully realize the potential of AI and position itself as a leader in the global AI landscape, India must adopt a comprehensive national strategy that includes investment in research and development, education and skilling programs, infrastructure development, and collaboration between the government, private sector, and academia. This will enable India to harness the power of AI for national security, economic growth and societal development.

As AI continues to permeate various aspects of society, there is a growing need for comprehensive governance and regulatory frameworks. The European Union's proposed Artificial Intelligence Act aims to "ensure that AI systems are safe, transparent, ethical, democratic and respect fundamental rights" (European Commission 1). Such initiatives underscore the urgency of addressing the ethical and legal implications of AI technologies.

II. CONCLUSION

In conclusion, the integration of artificial intelligence (AI) into businesses represents a pivotal shift in the way startups are growing and MNCs or larger firms function. As Andrew Ng famously remarked, AI is indeed the new electricity, powering transformative changes across various industries. The rapid evolution and adoption of AI technologies have not only revolutionized traditional business models but also paved the way for unprecedented advancements in productivity, customer experience, and decision-making processes. The ability of AI to automate tasks, analyze vast amounts of data, and generate insights has unlocked new possibilities for businesses and startups, enabling them to make faster, more informed decisions. From optimizing operational processes to enhancing marketing strategies, AI has become an invaluable asset for organizations striving to stay ahead in today's digital economy.

However, the impact of AI extended beyond established enterprises to startup ventures, albeit with unique challenges. While startups may face constraints in terms of financial resources and manpower, the adoption of AI presents opportunities for innovation and growth. However, it requires careful planning, investment, and the cultivation of an AI ecosystem within the organization. Nevertheless, the journey towards AI integration is not without its challenges. Concerns surrounding bias, fairness, and transparency in AI-driven decision-making processes highlight the need for ethical considerations and regulatory frameworks. As AI continues to develop, organizations must prioritize fairness and equity in the workplace to ensure that the benefits of AI are accessible to all.

In essence, the multifaceted role of AI in businesses underscores its significance as a driver of change and innovation. As we navigate the complexities of AI integration, it is essential to embrace its potential while addressing its challenges responsibly. By doing so, businesses can harness the full power of AI to fuel growth, drive efficiency, and shape a brighter future for the digital age.

The integration of AI in businesses represents a transformative journey that requires continuous learning, adaptation, and collaboration across disciplines. As AI technologies rapidly evolve, organizations must cultivate a culture of lifelong learning and upskilling, ensuring their workforce remains adept at leveraging the latest AI advancements. Fostering interdisciplinary collaboration among technologists, business leaders, ethicists, and policymakers is crucial for developing holistic strategies that address the technical, ethical, and societal implications of AI adoption. Moreover, responsible and ethical AI development must be a priority, adhering to principles of fairness, transparency, accountability, and privacy protection to ensure that AI systems benefit society and uphold ethical standards. Proactive governance and regulatory frameworks are imperative to keep pace with the rapid evolution of AI, requiring collaboration between governments, policymakers, and industry stakeholders to develop comprehensive guidelines that foster innovation while safeguarding the public interest and mitigating potential risks. Furthermore, promoting public awareness and education about AI is essential to demystify these technologies, empower individuals to engage with and shape their development, and facilitate a well-informed discourse on the benefits and challenges of AI. By embracing a holistic, collaborative, and responsible approach, businesses can harness the full potential of AI while navigating the complexities and addressing the ethical considerations that accompany this transformative technological revolution.

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