ISSN No: 2349-059X
Peer Reviewed & Refereed Journal
National Research Journal

THE INEVITABLE ROLE OF AI AND EMERGING TECHNOLOGIES IN THE RESILIENCE AND RE-INVENTION OF BUSINESS WORLD

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"*Success breeds Complacency. Complacency breeds failure. Only the paranoid survives*"- Andy Grove

ABSTRACT

Technological and Digital Transformation are happening in an accelerate pace, leading to the convergence of business and technology since some time now. It was to such intensity that business strategy and technological strategy have become synonymous. In this context no business can survive without embracing technology. AI and its associated technologies are impacting every industry and sector globally with proven positive results and productivity that no business can afford to ignore its emergence or it can do at the risk of becoming obsolete. A research study is made on the inevitability of AI on business reinvention and sustainability using empirical and conceptual literature.

Keywords: Artificial Intelligence, Quantum Computing

INTRODUCTION

We are in the era of fourth Industrial Revolution where businesses are governed by machinery and automation for efficient manufacturing and workforce optimization. Industry 4.0 is revolutionizing the whole world, by replacing humans in several sectors, establishing newer efficient routines, optimized and cost-effective processes in manufacturing and service sectors. The components of Industry 4.0 are broadly, Artificial Intelligence, Big Data Analytics and Data Science, Sensors, Cyber-Physical Systems, and Blockchain.

Therefore, there is an urgent need for businesses to reinvent themselves for survival. This paper discusses how AI plays an inevitable role in such business transformation using empirical and conceptual literature review.

Objective of the Research Study

To study the role played by AI and emerging technologies in the Resilience and Re-invention of Business World. The type of research undertaken is Descriptive Research.

Statement of the Problem

This research study is undertaken to answer the following questions

- Is AI playing a key role in Business Reinvention and Sustenance?
- Is AI beneficial to Mankind?
- Can AI Technology be eliminated?

Research Methodology

Desk Research methodology reviewing select literature to find answers to the research questions and survey methodology to get rapid answers

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LITERATURE REVIEW AND SCOPE OF THE STUDY

Conceptual literature review of select studies have been undertaken to establish the imminence and inevitability of the Technology. Empirical literature review of select studies have been undertaken to establish the real-life positive results of AI and in addition survey results have been shared to substantiate the hypothesis. All references have been duly cited in the references section.

Hypothesis

A simple hypothesis is made that AI plays a key and inevitable role in the resilience and re-invention of the business world.

LITERATURE REVIEW

I -Empirical Literature Review -Survey 1

A survey was undertaken in Linked in with the following question which was polled by limited number of users who have been observed to be occupying Governance positions

Can Business thrive without adopting Artificial Intelligence and other emerging technologies?

Yes- 8%

No- 92%

Result: 92% of the persons voted, opine that business cannot thrive without adopting AI and emerging technologies, while 8% opine that business does not require AI.

II-Empirical Literature Review -Survey 2

A survey was undertaken in Linked in with the following question which was polled by limited number of users who have been observed to be occupying Governance positions

Will Artificial Intelligence remove traditional jobs and generate new jobs?

Yes- 81%

No- 19%

Result: 81% of the persons voted, opine that AI will remove traditional jobs and generate new jobs, while 19% opined the opposite.

III-Empirical Literature Review -Survey 3

A survey was undertaken in Linked in with the following question which was polled by limited number of users who have been observed to be occupying Governance positions

Is Artificial Intelligence beneficial or detrimental to mankind?

Beneficial to Mankind 26%

Detrimental to Mankind 4%

Depends on its usage 70%

Result: 70% of the persons voted, opine that AI can be beneficial or detrimental to mankind depending on its usage, while 26% feel it is beneficial followed by 4% stating it is detrimental to mankind.

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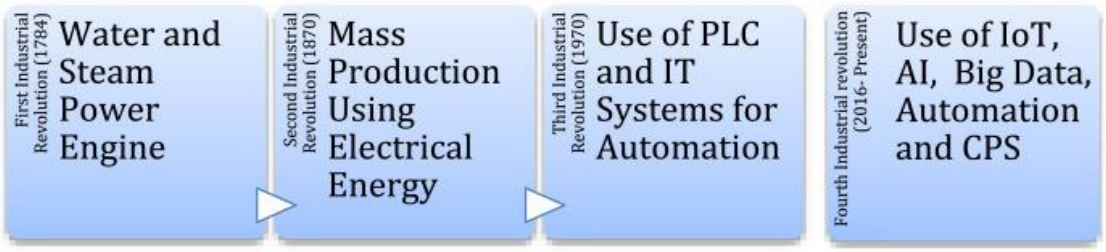
IV-Empirical Literature Review

A text is cited from the book, "When digital becomes human" -The transformation of customer relationships by Steven Van Belleghem (2015) where the author gives an assertive conclusion after his thorough research on the digital transformation, which is as follows:

"…. only the companies than have an open mind and the ability to adapt quickly will be able to transform successfully-and survive. Others will react too slowly. For these companies the future is looking bleak. .....The expectation that companies have of their staff will change dramatically during the next decade. The jobs that will be most after in 2025, probably do not even exist today (2014). People who are not willing to evolve will find themselves in serious professional difficulties. Maintaining our own relevance and our own position in the professional world will be an immense challenge for all of us in the years ahead"

V-Empirical Literature Review

A research study published in Science Direct -Elsevier (2024) is cited here. The title of the paper is "AI revolutionizing industries worldwide. A comprehensive overview of its diverse applications"-Adib bin Rashid and others. The author picturizes the industry 4.0 excellently where AI plays a key role as well portrays the beneficial applications of AI in various industries worldwide- healthcare, education, e-commerce, defense, retail marketing, manufacturing and so on.



I-Conceptual Literature Review-Can Technology be eradicated?

Kevin Kelly, in his book, "Out of Control" had stated that "*Nature has all long yielded her flesh to humans. First, we took nature's material as food, fibres, and shelter. Then we learned to extract raw materials from her biosphere to create our own new synthetic materials. Now Bios is yielding us her mind, we are taking her logic."*

"It is an astounding discovery that one can extract the logic of Bios of Biology and have something useful. Although many philosophers in the past have suspected one could abstract the laws of life and supply them elsewhere, it was not until the complexity of computers and human-made systems became as complicated as living things, that it was possible to prove this…. So far, some of the traits of living that have been successfully been transported to mechanical systems are self-replication, self-governance, limited self-repair, mild evolution, and partial learning".

Kevin Kelly adds that as we took concepts from biology and applied to technology, concepts from technology are being used back in biological systems.

"The root of bioengineering is the desire to control the organic long enough to improve it. Domesticated plants and animals are examples of technos-logic applied to life[1]*"*

To quote Kevin Kelly again in another celebrated book, "What technology wants" …. *"Many large, complex systems, such as the electrical grid, had been designed to repair themselves,*

[1] Out of control-The new biology of machines, social systems, and the economic world-Kevin Kelly

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not too differently from the way our bodies do. Computer scientists were using the principles of evolution to breed computer software that was too difficult for humans to write; instead of designing thousands of lines of code, the researchers unleashed a system of evolution to select the best lines of code and keep mutating them, then killing off the duds until the evolved code performed perfectly"

"At the same time, biologists were learning that living systems can be imbued with the abstracted essence of a mechanical process like computation for instance, researchers discovered that DNA—the actual DNA found in the ubiquitous bacteria E. coli in our own intestines—could be used to compute the answers to difficult mathematical problems, just like a computer."

"If DNA could be made into a working computer, and a working computer could be made to evolve like DNA, then there might be, or must be, a certain equivalency between the made and the born. Technology and life must share some fundamental essence[2]"

Therefore, Technology will assert its existence amongst human kind.

From the discussion, it is clear that technology cannot be removed totally from human life. It can at best be limited in usage and measures should be in place for its ethical and beneficial use.

II-Conceptual Literature Review-Moore's Law

Gordon Moore, a co-founder of Intel, first described this trend in a 1965 article, predicting that the number of transistors, on a microchip, would double every year. This doubling of transistors, while shrinking in size translates to -Increased computing power, higher efficiency, more complex functions and decreasing cost of computing, the rapid development of personal computers, smartphones, and other digital devices.

Therefore, it eventually led to big data analytics and huge flooding of data and the discipline of data science. This expedited the growth and led to the inevitability of AI.

III-Conceptual Literature Review-Quantum Computing

Quantum computing is a field of computer science that uses quantum mechanics to solve complex problems. It combines aspects of computer science, physics, and mathematics. Quantum Computing can enable enormous computing power and can lead to AI enabled quantum computing which substantiates the inevitability of AI.

Limitations of this Research Study

1. Limited Data availability and a smaller number of surveys polled candidates
2. Constraints related to sample size and diversity may affect the general findings
3. Time Constraints in accessing and analyzing extensive data sets and research materials.

CONCLUSION

- *Artificial Intelligence and its related technology, has the potential to benefit organization all over the world and it will play a huge role in business reinvention and stability,*

[2] What Technology wants- Kevin Kelly

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- *Embracing emerging technologies is the only way for survival for business enterprises.*
- *Technology cannot be eliminated and it should be put to good use by humankind.*

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