

Research explores industrial integration of artificial intelligence

February 29 2024, by David Bradley



Credit: Pixabay/CC0 Public Domain

Artificial Intelligence (AI) has very quickly transitioned from science fiction to practical applications, particularly in industrial sectors such as manufacturing, logistics, and retail. A [study in the *International Journal of Technology Transfer and Commercialisation*](#) looks at the AI landscape and sheds light on its evolution, implications, and integration challenges

across industries.

In his study, Ibrahim Saleem Alotaibi of the College of Administrative and Financial Sciences at the Saudi Electronic University in Riyadh, Kingdom of Saudi Arabia, highlights a significant shift driven by AI technologies such as machine learning and deep learning. Industries are increasingly adopting AI-driven automation to meet market demands and improve operational efficiency. However, he also demonstrates that this transition from conventional approaches presents various challenges at different levels.

One key challenge is the need for substantial investment and skilled technicians to implement AI-driven processes effectively. Moreover, there are concerns about software failures, cybersecurity risks, and data privacy that add enormously to the complexity of the integration process. In addition, to such technical issues, as the legal and regulatory frameworks mature, there will be issues of how companies must comply with laws around AI and its implementation. This too will require much consideration by the companies, particularly in regions where laws associated with AI use are present in parallel with stringent data protection laws.

In his study, Alotaibi underscores the leading role played by China in the adoption of AI tools, particularly in manufacturing and logistics. Despite its rapid embracing of AI technologies, there remain many questions about sustainability given the computing resources that are needed to train and run the most powerful AI tools. Of course, this issue will ultimately present itself to all regions utilizing high-level AI across all industries.

As businesses navigate the complexities of AI integration, responsible deployment becomes crucial. Those involved in developing, implementing, and using AI tools must prioritize [risk assessment](#), ethical

frameworks, and collaborative approaches to address the technical, societal, and regulatory challenges that the increasingly widespread adoption of AI will bring.

Even precluding the hyperbole, AI offers many incredible opportunities for innovation and efficiency across industries. Its wider [integration](#) nevertheless requires careful consideration of the implications and the challenges presented. Alotaibi's research emphasizes the importance of taking a considered and inclusive approach to realizing the full potential of AI to mitigate the risks associated with its use.

More information: Ibrahim Saleem Alotaibi, Impact of artificial intelligence in manufacturing and logistics: an exploratory study, *International Journal of Technology Transfer and Commercialisation* (2024). [DOI: 10.1504/IJTTC.2023.136890](https://doi.org/10.1504/IJTTC.2023.136890)

Provided by Inderscience

Citation: Research explores industrial integration of artificial intelligence (2024, February 29) retrieved 28 April 2024 from <https://techxplore.com/news/2024-02-explores-industrial-artificial-intelligence.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.