

Responsible Use of Artificial Intelligence: Perspective of a Global IT Management Consultancy

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EXECUTIVE SUMMARY

The potential of the rapidly evolving artificial intelligence (AI) technology is truly limitless and the increasing integration of AI in our day-to-day tools and services is making the impact of AI on society inevitable. This inevitability makes the need to advance AI in a responsible manner. AI development must apply rigor and risk management to ensure solutions are accurate, inclusive, transparent, and safe, ensuring ethical standards and the responsible use of AI. Responsible use principles help ensure robust, reliable, and transparent AI which increases trust in the solutions which is critical to apply change management (the adoption and acceptance) efforts for organizations that want to embrace this.

INTRODUCTION

For many years, Artificial Intelligence and Machine Learning models have been pivotal for data scientists to test hypotheses and theories as well as to extract valuable insights from data. Artificial Intelligence and Machine Learning are approaches that have been traditionally used to process large amounts of structured data to synthesize information and determine insights, These Artificial Intelligence and Machine

Learning algorithms have typically required statisticians and data scientists to source the data and run the models, and then provide those insights to the business or clinical stakeholders. Understanding of the data, processes and Artificial Intelligence models and outputs were complex and required information to be ‘translated’ from the mathematical foundations. Current and evolving developments in Artificial Intelligence solutions have provided greater accessibility to Artificial Intelligence and Machine Learning as well as making Artificial Intelligence systems become more prevalent in society (König et al., 2022, pp. 18). The latest evolution of Artificial Intelligence also provides interactions with a much more accessible user interface and natural language which brings the solutions closer to the business users as well as more accessible to the public. Recent advancements make the technology easily extendable to serve a vast array of purposes with a lower reliance on specialized and technical expertise. Changes in technology have extended traditional Artificial Intelligence to be able to ingest, synthesize and generate multi-modal outputs (images, speech, video, and tabular and narrative text) as well as an increase in multi model solutions that integrate multiple forms of Artificial Intelligence and Machine Learning for complex processing and automation. By thoughtfully understanding and leveraging these emerging technologies, business, government, and clinical organizations can now harness the potential of Artificial Intelligence and Machine Learning to drive evidence-based decisions, gain operational efficiencies, provide customized services, and reduce organizational risk.

Still, this greater accessibility and use for business problem solving and decision making calls for applied ethics enforcing a responsible use of Artificial Intelligence. Building ethics and responsible use of AI is a new concept to business practice and requires a different lens to ensure management consultants, developers and users of the AI solutions are working within a responsible use framework. Understanding the risks of AI relevant to the business use and applying risk mitigation is critical to ensure that AI solutions are secure, privacy is protected, and the output is reliable and relevant to the business problem and population being addressed. These processes do not stop at the development of the solution but needs to be integrated with the solution strategy and use case development, data provisioning, training, and interpretation of the models as well as in the operationalization and ongoing monitoring and auditing of outputs. This practice is a change to traditional business consulting expertise and requires that business analysts focus more on the question the solution is trying to answer rather than the solution being designed. Leveraging an academic research approach and principles to design a robust AI solution that uses data to answer a question help bridge existing business consulting methods. The ethical principles to be included the business consulting methodologies are outlines in the sections below.

One might identify the resurrection of scientific discussion of the ‘human computer’ already before the Dartmouth Summer Research Project in 1956 (Gödel, 1931; Turing, 1937; Warren, 1943; Turing, 1950). However, the conference is widely seen as “the birth of Artificial Intelligence” (History of Data Science, 2021). The then prediction of Marvin Minsky’s that “within a generation [...] the problem of creating “artificial intelligence” will be substantially solved” (Minsky, 1967) did not occur. It took 70 years – and two ‘Artificial Intelligence winters’ – for Artificial Intelligence and Machine Learning technologies, as well as related fields to evolve with varied models and objectives (Dietrich et al., 2021). However, the foundational functions of Artificial Intelligence have largely remained consistent. Artificial Intelligence is a robust digital solution that harnesses data to train the models to emulate human reasoning, helping humans gain insights from probability, generating predictive models, pattern recognition, and providing expert analysis. Machine Learning, a dominant paradigm, but subset of Artificial Intelligence, can refine its learning autonomously as it assimilates more information as well as learning from prompts

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