

CASE STUDY

Artificial Intelligence (AI) Governance

1.0 ABSTRACT

This report focuses on governance in Artificial Intelligence (AI). This case study is a development on an inspirational presentation by Sue Turner in one of the series of the Research and Applications in AI and DS lectures. Further research and considerations have been added to explain the reasons for governance in AI, problems it aims to solve, impacts amongst others.

2.0 INTRODUCTION

The invention, development and application of Artificial Intelligence has been a game-changer in various sectors of human living such as Education, Health, Surveillance, Agriculture, Manufacturing, Military etc. ([A. Dafoe, 2022](#)). Artificial intelligence today has significantly reformed the way we work, socialize and associate with one another. In fact, the current trajectory of AI development suggests huge dependence on applications of AI for human productivity in the nearest future ([Whittlestone & Clarke, 2022](#)). To further stress the rate of AI development, Machine Learning researchers have estimated that 8% human-level AI would be existent in the next decade, 22% in two decades, and greater than 50% by 2060 ([Zhang et al., 2021](#)). While the emergence of AI has afforded human tremendous benefits, huge ethical concerns have also been triggered as to how AI technologies are applied. These concerns include potential displacement from job(s) due to automation, misplaced priority on responsibility, ownership and accountability that can result from AI systems, Algorithmic and/or intentional biases, Malicious use, lack of transparency and even unintended consequences of AI technologies ([J. Butcher & I. Beridze, 2019](#)). Therefore, to minimize the enormous potential harms of Artificial Intelligent technologies, and maximize its great positive potentials, effective AI governance is required ([Patel, 2022](#)).

AI governance simply involves defining systems of regulations, policies and practices to ensure that Machine Learning (ML) algorithms and Artificial Intelligence are designed, developed and used reasonably, responsibly, with fairness, transparency and accountability ([Mäntymäki, M., 2022](#)). This report further explains how certain individuals and organizations have understood the impact of AI on human and have proposed and developed mechanisms for its governance.

3.0 DISCUSSION

AI Governance Ltd, United Kingdom; founded by Sue Turner and team, have been able to utilize data led research to influence knowledge of AI governance in the United Kingdom and beyond. According to Turner ([2022](#)), in a survey of 700 industry leaders, a whopping 406 top officials (58per cent) were not aware of their proficiency and/or have no AI know-how. Furthermore, similar research by the organization showed that over a 90per cent of organizations (in the UK) have no processes for control of AI usage. These discoveries ultimately revealed the huge knowledge gap which primarily forms the basis for transparent, reasonable, responsible, accountable, fair/unbiased adoption and usage of artificial intelligence technologies ([Sigfrids A. et al, 2023](#)). In order to solve the associated challenges with this low level of awareness, the AI Governance Ltd developed initiative to engage in continuous data driven research and publication of research reports and findings to public spaces and AI communities. The company's quality and affordable executive education, speaking

engagements and consultation currently provide opportunity for AI enthusiasts and industry leaders to be equipped on opportunities of AI which are not only ethical but also beneficial to their entire supply chain.

Furthermore, Partnership on AI, a non-profit organization founded in 2016 by several top technology companies which include IBM, Microsoft, Amazon, Facebook, Google etc. has continued to utilize AI models and working groups to achieve its mission of promoting best practices in the development and fair usage of AI technologies. While the details of the architecture of the models are not known at the time of this report, it was established that these models have been significantly used to identify and analyse probable risks related to development and deployment of AI. For instance, in November 2020, Partnership on AI launched a tool named AI Incidents Database (AIID) ([The UCL Finance and Technology Review, 2021](#)), which tracks and records various incidents of AI systems which have negatively impacted the developers'/users' community or harm individuals or society. This tool utilizes its machine learning ability to analyse gathered data for the discovery of issues and common trends in AI technologies, thus helping to develop an informed and data led guidelines for the responsible development and deployment of AI technologies. In addition to addressing the issues in AI technologies, Partnership on AI also developed an Algorithmic Bias Detection tool ([Partnership on AI, 2018](#)). This tool uses machine learning algorithms to detect and prevent biases in various AI systems. Capable of data analysis and mining, the tool can identify patterns of biases in dataset before usage in developing an artificial intelligence system.

4.0 OUTCOMES

Following these developments by AI Governance Ltd UK, and Partnership on AI, the following outcomes have been established; advancements of data-led research to understand the impacts of AI on humans, promotion of ethical AI, increased public awareness on the profits and risk potentials of AI, improved transparency and accountability, promotion of best practices, policy change advocacy, collaboration and many more. The outcomes have continued to impact even the parliamentary and governmental spaces. According to Nestor M. et al, ([2023](#)), there has been a continuous rise in legislative reforms in AI and its governance where a total of 123 AI-related bills were passed between 2016 and 2022 in a survey carried out on 127 countries.

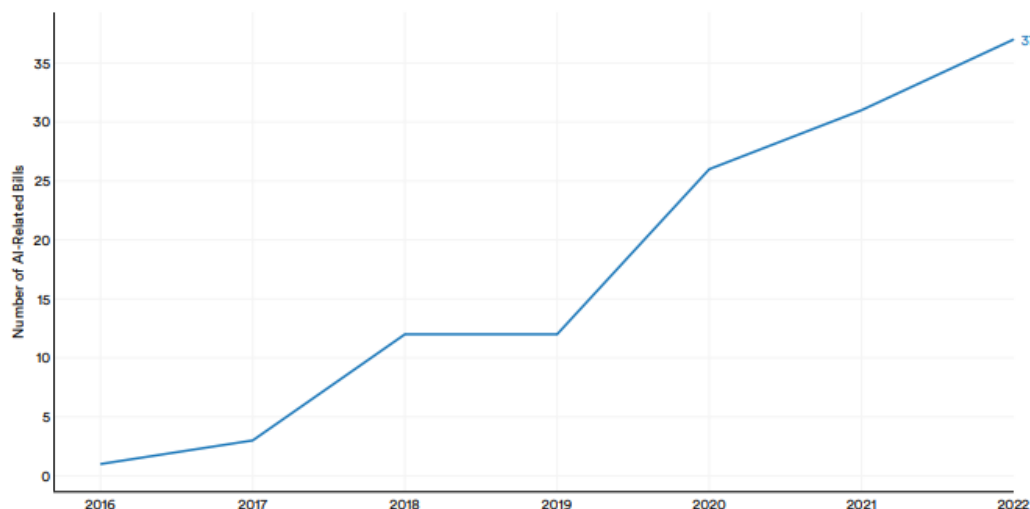


Figure 1: Number of AI-Related Bills Passed into Law in 127 Selected Countries, 2016–22

Source: 2023 AI Index Report

5.0 APPRAISAL AND CONCLUSION

As a result of the continued developments in Artificial Intelligence and Machine Learning technologies, it is of no doubt that the mechanisms developed by the organizations discussed in section 3.0 have been beneficial in the management of the pros and cons of AI systems development and deployment. The mechanism and models are not only beneficial but also sustainable. Collaboration of the two will provide continuous awareness, tailored solutions and reforms in the development and usage of AI systems.

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