

# Chapter 1

## Impact of Disruptive Technologies on the Socio-Economic Development of Emerging Countries: Artificial Intelligence and Legal Liability in Tanzania

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### **ABSTRACT**

*The growth of computer science, robotics, and artificial intelligence (AI) worldwide has been considered a catalyst for developments in several sectors including health, education, trade, and telecommunication. AI is now dominating every aspect of life, and it is not surprising that it has entered into several domains that are subject to negligence or negligence equivalents, including medical misconduct, data security, investment advice, and financial advice. This novel development has brought serious legal discussions about liability in the law of negligence. The language of liability in the law of negligence has put much weight on personhood. These and other reasons invite a critical discussion on the development of new jurisprudence in the law of negligence.*

### **INTRODUCTION**

The technological development in Information and Communication Technologies (ICTs) which is taking place globally, is bringing fabulous innovations and applications in the Information Age. The emerging technologies such as the Internet of Things (IoT), Cloud Computing (CC), Big Data Analytics (BDA), Artificial Intelligence (AI) and Robotics and Machine Learning (ML) are improving efficiencies in industries, minimize infrastructure investments and deploy solutions rapidly and securely (Rotolo & Martin,

DOI: 10.4018/978-1-6684-6873-9.ch001

2015). The United Republic of Tanzania (URT) has recognised the importance of Science, Technology and Innovations in driving viable industrialization for human development. This is in line with the National and International Agenda; the National Development Vision 2025 and long term perspective plan (LTPP) and African Union Agenda 2063 and Science Technology and Innovation Strategy for Africa 2024 (NSTI policy, 2022). The URT has continued in formulating and implementing strategic policies that require Science Technology and Innovation (STI) as inputs for their implementation. In the course of its effort, it has benefited from the end results of disruptive technologies such as cloud computing, biotechnology, AI and robotics (NSTI policy, 2022). The URT government has shown commitment in digitising several of its operations for greater efficiency. It has also developed an e-government strategy and set up an implementing institution (GSMA, 2023). According to Oxford Insights in its ‘Government AI Readiness Index 2021,’ governments across the continent are turning to AI to improve their public services and gain strategic economic advantages. Tanzania has a score of 32.69 out of 100, just above Sub-Saharan Africa’s average but still low compared to countries globally.

The prospective socio-economic benefits of these innovations and applications are great, and are currently being harnessed in various sectors such as education, health, fintech and agriculture. According to Sukums et al. (2023) in their paper entitled “the use of artificial intelligence-based innovations in the health sector in Tanzania: A scoping review”, shows a growing interest in adopting these emerging technologies in health services but at a relatively low pace. The Ministry of Health is currently drafting an AI policy framework and is eager to understand how emerging technologies can help the advancement of this sector. The innovation hubs and accelerator programmes such as Tanzania AI Lab, AI Commons and Sahara Ventures are supporting the development of the ecosystem (GSMA, 2023). Since the efforts of adopting AI and Robotics are so fragmented, Tanzania must move on from a departmental approach and implement a National AI strategy.

## **OVERVIEW OF ARTIFICIAL INTELLIGENCE (AI)**

Although AI represents one of the major technologies of our time, there is no common or accepted definition of Artificial Intelligence (AI). Some define AI loosely as a computerized system that exhibits behavior that is commonly thought of as requiring intelligence. Others define AI as a system capable of sensibly solving complex problems or taking appropriate actions (Dempsey, 2020).

In 1955, John McCarthy, the founding father of the discipline of AI, termed the process as, that of making a machine work in such ways that would be called intelligent if a human were so behaving (Shahul Ikram & Zul Kepli, 2018). In 2018, a book issued by Microsoft defined AI as “a set of technologies that enable computers to perceive, learn, reason and assist in decision-making to solve problems in ways that are similar to what people do (Dempsey, 2020). AI denotes the computer-generated intelligence in machines that enables them to imitate, mimic and act like humans. Developers of AI believe that human behaviour can be precisely categorised and simulated by intelligent machines that have been programmed to behave so. The achievement of this is the development of the intelligent robot, Sophia (Agunbiade, 2019).

The widespread and increase in popularity of AI have captured all circles of human life such as business, education, health, and industry. The introduction of social media applications with Artificial Intelligence (AI) based algorithms as well as Facebook, Twitter, Instagram, and WhatsApp has revolutionised the way people interact with each other, for better or worse (Ikram, 2018).

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