

## THE FORTH INDUSTRIAL REVOLUTION AND LEGAL PRACTICE IN TANZANIA: A WOE OR A BLESSING?<sup>1</sup>

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### ABSTRACT

The forth industrial revolution involves the omnipresent use of digital technologies such as artificial intelligence (AI), robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing. It is a fusion of Physical, digital and biological worlds impacting all discipline economies and industries having great impact on humanity<sup>3</sup>. The technological changes brought about by the Forth industrial revolution have a huge impact to the business landscape, the legal practice and the world in general. The change is at an accelerated pace, legal practitioners ought to cope with because it is inevitable. With regards to legal practice the forth industrial revolution has an impact ranging from clients handling, preparation of legal documents, case filing and even consultations with clients. The forth industrial revolution might seem to be a threat (woe) to legal practitioners or an opportunity (Blessing) depending on the readiness of practitioners to swing along with the changes brought about by the revolution.

This article analyses the impacts that may be brought about by the fourth industrial revolution to legal practitioners in Tanzania specifically on the use of Artificial Intelligence (AI), and suggests the approaches to be adopted in order to pace-up with the changes brought about by the revolution. It is suggested that the legal practitioners should perceive the revolution as an opportunity for growth of the scope of the legal practice.

**Key Words: The forth industrial revolution, Digital Technologies, Artificial Intelligence and legal practitioners**

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<sup>3</sup> Nakamba Ngawo, *The Fourth Industrial Revolution – Opportunity Or Threat For African Lawyers?* <https://www.commonwealthlawyers.com> , Accessed on 30<sup>th</sup> May 2022, p 1

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## 1.0 Introduction

Industrial revolution is the process of change from the agrarian and handcraft economy to an economy that is dominated by industry and machines mode of production. The revolution transformed the society by introducing new ways of working and living.<sup>4</sup>

The brief history of industrial revolution is that<sup>5</sup>, the first industrial revolution involved discovery of steam engines, in the second industrial revolution there was discovery of electricity and assembly line as a result mass production was made possible which lead to significant economic development. Computers were born in the third industrial revolution. More advancements in the third industrial revolution resulted into the birth of the fourth industrial revolution (4IR) which is basically similar to the third industrial revolution only that the 4IR involves a fusion between digital, physical and biological features impacting all disciplines, economies and industries, it does not change what we do, it changes human kind. The 4IR involves an increased interaction and interconnectedness of man and machines.<sup>6</sup>

The peculiar characteristic of the 4IR is that it affects the social aspect of life. Different from the 1<sup>st</sup> to 3<sup>rd</sup> industrial revolutions that affected the production and economic aspects of life the 4IR industrial revolution directly affects the human aspect of life (the social aspect).

The 4IR encompasses use of digital technologies such as artificial intelligence (AI), robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing. The impact of the 4IR has inevitably affected all aspect of human life from business, health, political, economies and the legal practice. The focus of this paper is on the impact of 4IR to legal practice specifically the use of AI.

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<sup>4</sup> [www.britanica.com](http://www.britanica.com)

<sup>5</sup> Chogo P.J, “Professional’s Opinion on the 4th Industrial Revolution Readiness in Tanzania”, International Journal of Scientific and Research Publications, Volume 10, Issue 11, November 2020, p 1028

<sup>6</sup> Ibid

### 1.1 The 4IR in Tanzania

In Tanzania the 4IR is adopted by Government institutions, private institutions and at individual levels. The use of technologies such as Internet of Things (IoT) and AI are well adopted for instance the use of electronic payments through Government Electronic Payment Gateway (GEPG), where by all the payments to Government services are payable electronically by issuance of control number which enhances transparency.

In the judiciary cases are now filed electronically by E Judicial filing system. The use of ICT has much improved service provision in the Judiciary. Specifically the areas improved are, e-case filing, Video Conferencing, Case Management and Electronic Case Data Base. In the area of Case Management, the development of JSDS Version 2.0 has eased case registration, case tracking, retrieval of proceedings and judgments and case information. Now cases may be filed electronically and reported cases can easily be retrieved.<sup>7</sup>

The Judiciary successfully installed Video Conference facilities in all 16 High Court centers, 4 High Court Divisions (Land Court, Labour Court; Commercial Court and Corruption and Economic Crimes Court) 17 Prisons centers; Istitute of Judicial Administration and Kisutu Training Centre. Further 12 sets of Audio-Visual Recording Facilities were installed in four High Court Divisions.<sup>8</sup>

The improvements in the judiciary by use of digital technology have a massive impact. For example, installment of Video conference (VC) and Audio-Visual Recording Facilities in the Judiciary has seen a number of 7,968 case sessions conducted through Video Conference. Specifically during the outbreak of Covid -19 pandemic (March – June, 2020). Though the

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<sup>7</sup> Tanzania Judiciary Strategic Plan 2020/2021-2024/25 pp 11-13

<sup>8</sup> Ibid

Government was implementing social distancing policies the Judiciary was still able to maintain service delivery, at the same time reducing operational costs.<sup>9</sup>

The Tanzania bar association (Tanganyika Law Society) maintains the roll of advocates who are active through the Wakili Data base<sup>10</sup>, and at individual levels many people enjoy the use of smart watches, Smart Tv and other automated home appliances.<sup>11</sup>

## 1.2 Artificial intelligence (AI)

AI refers to tools, techniques and products used for the carrying out activities in an automated way<sup>12</sup>. These activities were previously undertaken by humans. AI is used to enhance or replace human capabilities.

AI should be distinguished from machine learning. While AI is where a machine is taught to perform human tasks, where as machine learning is where human trains machines to learn based on data input. For example, setting your smart phone to remind you to call your friend every Friday at 1800hrs, this is a process of a machine taught to perform a human task, it will not stop reminding you unless you stop it. That is to say the smart phone mimics human intelligence to perform a human task. Machine learning is when a machine learns to draw one correct conclusion and apply those conclusions to new data. In a smart phone example, because you have been calling your friend every Friday 1800hrs for the past year continuously, your smart phone would recognize the pattern and automatically send you a reminder on Friday 18800hrs if you don't call your friend. This is because your smart phone has learnt the pattern.

Why should lawyers make use of AI tools<sup>13</sup>?

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<sup>9</sup> It is on record that by using video conference facilities at the peak of the pandemic, Tzs. 916,697,579.00 was saved by Judiciary (Tzs. 796,681,486.00) and the Prisons Department saved Tzs. 120,016,093.00. (Judiciary Strategic Plan 2020/21 - 2024/25 pp12-13)

<sup>10</sup> [Wakili.tls.or.tz](http://Wakili.tls.or.tz) and [ewakili.judiciary.go.tz](http://ewakili.judiciary.go.tz)

<sup>11</sup> Chogo P.J, p 1030

<sup>12</sup> Peter Homoki, Guide on the use of Artificial Intelligence-based tools by lawyers and law firms in the EU 2022, Council of Bars and Law Societies of Europe, Rue Joseph II, 40 B-1000 Brussels (Belgium), 2022

<sup>13</sup> Ibid

- ❖ A great opportunity to empower practitioners and law firms of all sizes to be able to respond to changing client requirements including changing preferred channel of communication.
- ❖ The increase in the amount of data generated at the level of society, including the ever-increasing amount and diversity of digital evidence which is created and which requires to be processed.
- ❖ Provide a new chance for lawyers to improve further their workflows, to make their deliverables more consistent, and to increase the added value of their work.

## 2.0 AI and the legal practice

Gravett WH<sup>14</sup> holds a view that AI will assist in human work, rather than replace it.<sup>15</sup> He holds a view that, the use of AI will make legal practitioners less reliant on firms economic of scale, which will enhance the performance of both solo practitioners, small law firms and even larger firms, and this will increase accessibility to legal services and that will be beneficial to legal practitioners and clients alike.

Though AI may be very important for a practitioner today, purely Legal skills based on human judgment, inference, common sense, interpersonal skills and experience will remain valuable for the lifetime of any lawyer practicing<sup>16</sup>. As Gravel<sup>17</sup> put it

“...to advise clients, appear in court and be responsive to a particular client's priorities and subjective needs. Thus, although "knowledge" jobs in the law might fall victim to the advance of AI, "wisdom" jobs will not — at least not in the foreseeable future.”

“..the question should be whether one lawyer, augmented by machines, can perform the same work that five human lawyers used to do. The answer is simple — it is already happening.”<sup>18</sup>

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<sup>14</sup> Gravett WH "Is the Dawn of the Robot Lawyer upon us? The Fourth Industrial Revolution and the Future of Lawyers" PER / PELJ 2020(23) p 3

<sup>15</sup> Ibid

<sup>16</sup> Ibid p 14

<sup>17</sup> Ibid

<sup>18</sup> Ibid p 17

## 2.1 AI drafting support tools

These are tools that assist lawyers in drafting different types of legal documents. They consist of writing assistance tools, automation of documents assembly and tools for turning legal data and knowledge basis into text.

- **Writing assistance tools;** these help in text editing and word processing (language usage and word usage). The tools act in the manner spell, grammar-check and autocorrect work e.g. Briefcatch<sup>19</sup>. These tools may also assist in verifying whether legal citations are correctly formed and fully refer to the intended cases e.g. CiteRight in the US<sup>20</sup>. Writing assistance tools usually need integration with tools running on the computer of the lawyer (e.g. with Microsoft Word as an add-in) or the tools need to provide the full editing capacity themselves (as an online rich text editor).
- **Document assembly;** these tools help automation of the assembly of documents of previously recorded provisions and conditions. The tools are very helpful when the content repeats in documents such as contracts, briefs, deeds, wills and other drafted legal documents. Document assembly tools work in two phases;
  - The design phase, this involves the creation of the template, also called template authoring, e.g. will template, contract template.
  - The use of the templates during a user interview or other customisation or data import process, when the template is turned into specific documents.
- **Tools for turning legal data and knowledge bases into text;** this involves generation of text from non text data to legal data.

## 2.2 The ways legal practitioners can take advantage of AI

Using AI support tools, legal practitioners may take advantage of AI in various ways to make their work more efficient and less costly. The following are the ways legal practitioners may employ.<sup>21</sup>

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<sup>19</sup> <https://briefcatch.com/>

<sup>20</sup> <https://www.citeright.net/>

<sup>21</sup> <https://www.clio.com/blog/lawyer-ai> Josh Kern, AI in Law: Transforming Legal Practice.

### 2.2.1 E-Discovery

This is a process of scanning electronic information to obtain non-privileged information. By using E-discovery software legal practitioner may scan documents using search terms or specific parameter example names, dates, geographical location and act immediate response faster that he would get if he had scanned hard copy.

### 2.2.2 Legal research

With AI a legal practitioner can use software (E-discovery software, AI powered legal research software) to search large database of legal information such as legislation, case laws or legal texts faster and comprehensively example Casetext<sup>22</sup>, Tanzilii<sup>23</sup>

### 2.2.3 Document management and automation

This is done by electronic document storage. It involves the use of AI document management software to store and organize legal files such as case files, templettes of contracts and notes. Document stored by electronic documents storage software are easier to retrieve, easier to share the files with others, control accessibility for security purposes.

Document automation can be used by practitioner to create documents using intelligent templates. Automation provides a centralized and efficient process for drafting legal documents such as memos, letter deeds, bills and invoices.

### 2.2.4 Due diligence

By using AI based due diligence solution, legal practitioner can review more quality and efficiently large number of documents. An AI based due diligence solution can single out a specific document required for the specific clause. The due diligence software can also spot variation or changes in documents.

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<sup>22</sup> <https://casetext.com>

<sup>23</sup> <https://tanzilii.org>



## **2.3 The impacts of the use of AI by legal practitioners**

The use of AI in the legal profession is transforming the work lawyers in many ways. Lots of opportunities are created for the future<sup>24</sup>. The use of IA has both negative and positive impact to the legal fraternity.

### 2.3.1 Positive impacts

The positive impact of the use of AI includes the following;

#### 2.3.1.1 Legal automation/ automatic reminders

This is when legal duties which traditionally are handled by practitioners are now handled by machines, for example High volume data collection, reviews, repeatable processes and document generation, reminders on Court dates, appointments and mail merge.

Practitioners can now automate the creation of legal documents like contracts and key elements in the negotiation elements.

#### 2.3.1.2 Less time in performance of basic lawyer's duties

Bulk documents may be analysed in a speedy and efficient manner by using AI. The system would identify the required papers, analyse them and identify the requested terms and clauses. An AI-powered document review may evaluate and categorize the documents promptly in various languages, different areas of practice and file kinds.<sup>25</sup>

#### 2.3.1.3 Ease of legal research

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<sup>24</sup> Lyle Solomon, The advantages and disadvantages of AI in law firms, VentureBeat, 2022, <https://venturebeat.com>

<sup>25</sup> Ibid

Data driven knowledge has now become the primary source of information for lawyers in place of anecdotes and personal experience.<sup>26</sup> You can get almost every kind of information you need online, you don't need to ask about how often a judge grants an injunction or to visit a court registry to inquire about the filing fees, because you can almost find everything online.

#### 2.3.1.4 Elimination of time consuming tasks

Now you can use E-filing to file your case without physically visiting the registry. You fill in your case details in the system attach the plaint/petition or application and file your case, generate a control number for payment, pay the fees, generate your receipt and you're ready to go. All this is done while seated at your office. E.g. the E-filing system via [www.jsds.judiciary.go.tz](http://www.jsds.judiciary.go.tz) in Tanzania. An advocate need not produce his ID to prove he is a valid practitioner, you just search him on E-Wakili to first find out if he is enrolled and secondly if he has renewed his practicing certificate.

#### 2.3.1.5 Remote work facility

The uses of AI have revamped Court practices to run fully digitally. Legal practitioners can now perform their work remotely. Witnessed can be examined afar from where the court presides and lawyers can arrange an arbitration proceedings from different ends of the world. Currently a remandee will not miss a court date because the van is faulted, a video conference will be set and he will be sentenced from the remand.

### 2.3.2 Adverse impacts

The following are the adverse impacts of the use of AI by legal practitioners

#### 2.3.2.1 Increase level of unemployment in the profession

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<sup>26</sup> Ibid

Manual work is replaced by AI therefore a firm would no longer need ten employees while a machine can perform the work. Deloitte<sup>27</sup> noted that;

“Technology has already led to a loss of 31,000 positions in the legal sector, but there has been an overall rise of around 80,000 jobs, the majority of which are higher qualified and better compensated”

#### 2.3.2.2 AI is expensive

It is expensive to set up an AI system and more expensive for technical support after initial set up of the system. This being a case it is very difficult for solo practitioners to afford AI, only big and wealthy law firms can afford a well tailored AI system.

#### 2.3.2.3 Machines cannot be trustworthy

In instances where there is damage to the machine or malfunctioning of the software then the whole system collapses. There is no guarantee that a device or the software will be error free above all AI cannot listen, empathize, advocate or understand politics.<sup>28</sup>

#### 2.3.2.4 Vulnerability to cyber threats

The use of AI increases the risks of cyber attacks and privacy. This is especially when there are no adequate legislation for personal data protection and protection of privacy in an internet world.

### **3.0 The 4IR and legal practice in Tanzania a woe or a Blessing?**

In a study conducted in 2020 by Chogo P.J, it was established that, Tanzanians professionals including the legal professionals are ready for the 4IR.<sup>29</sup> The variables used in the study were; the readiness and the awareness of the professionals to adopt the 4IR. It was found out that among 170 respondents who are professionals, 97.6% were aware of the 4IR and 53.7% are aware of AI

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<sup>27</sup> [www2.deloitte.com/uk/en](http://www2.deloitte.com/uk/en)

<sup>28</sup>Ibid Lyle Solomon,

<sup>29</sup> Chogo P.J, “Professional’s Opinion on the 4th Industrial Revolution Readiness in Tanzania”, International Journal of Scientific and Research Publications, Volume 10, Issue 11, November 2020, p 1032

specifically. However the application of the AI is in respect of of solutions that are closer to individual uses than in organizations.<sup>30</sup>

Adoption of the 4IR requires overhauling of the education system to prepare for technological change. Legal practitioners must be prepared to adopt the technological changes right from the university education and the Law school.

### 3.1.1 Is the 4IR a woe or a blessing?

Despite having some challenges as identified under the previous sections, application of AI has been very beneficial to the legal practice. For the past year, E-filing of cases, electronic storage of legislation and case laws, automation of storage for advocates data and E-Government payments are some of the blessings that come along with the 4IR. AI has made legal practice more efficient, timely, and more transparent.

The 2021 Southern African Chief Justices Forum (SACJF) conference called for African Chief Judiciaries to formulate policies and practices that support equitable development of new technology.<sup>31</sup> SACJF stressed on the application of the 4IR, there must be observed respect for human rights, transparency, efficiency and enhancement of access to justice.

Legal practitioners have an opportunity for new areas of practice. The scope and nature of services that Lawyers can offer are expanded and the manner in which those services are delivered are expeditious and more efficient.<sup>32</sup> The 4IR will result to novel legal and ethical issues for lawyers to advise on and the Courts to decide upon.

Nakamba Ngawo<sup>33</sup> summaries the benefits which are associated with adopting the 4IR into four benefits;

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<sup>30</sup> Ibid

<sup>31</sup> Mariya Badvera-Bright (2021) the forum at Mosi-Tunya: Judiciaries and the Fourth Industrial Revolution in Africa, legal information Institute- <https://africanlii.org>

<sup>32</sup> **Ngawo Nakamba** Africa / The Fourth Industrial Revolution – Opportunity Or Threat For African Lawyers? <https://www.commonwealthlawyers.com>

<sup>33</sup> Legal Counsel, Development Bank of Zambia

Firstly, development and expansion of the scope of legal services. New areas of practice will be developed to supplement the old areas of practice.

Secondly, due to the developed new areas of legal practice, it will be inevitable for legislative change and reforms. Practitioners will have a participatory role in the reforms and the drafting process.

Thirdly, practitioners will have meaningful contribution in the jurisprudence by participating in disputes settlement arising in relation to, digital technologies and their implementation.

Finally, and away from traditional legal services, legal practitioners have an opportunity to invest in technology firms. A range of possible software and technology development opportunities are open to lawyers.

### 3.1.2 What should legal practitioners in Tanzania do?

Legal practitioners in Tanzania should inevitably embrace the 4IR, at least the application of AI. This can begin by mindset change at first place. Legal practitioners should move away from traditional mode of practice. The 4IR is already happening globally and it is happening fast. Whether practicing solo, in a small law firm, medium scale firm or large firm, the use of AI should be prioritized to pace up with the Global requirements on the 4IR.

The Tanganyika Law Society must take up initiatives to provide for the members, relevant education in specific areas of technology law as it evolves, and continuous professional development in relevant areas of digital technology to pace up with the rest of East Africa and Africa.

## 4.0 Conclusion

The 4IR has knocked the doors of our country and the legal practice while we are at the verge of getting acquitted to the third industrial revolution. The requirement to pace up with what the world requires in the use of digital technology has made it inevitable to fast track adoption of the 4IR.

AI will augment the work of lawyers in three ways<sup>34</sup>. Firstly, it will increase the ability of lawyers to work multiple tasks for clients at the same time while increasing their efficiency. Secondly, solo practitioners or smaller firms may now be able to perform works that were traditionally possible to be performed by larger firms because of their ability to have larger number of personnel. Thirdly, lawyers may be able to broaden, rather than narrow, their areas of specialisation. New areas of practice will be developed and tradition or existing areas of practice will be efficiently be performed.

Individual legal practitioner's readiness to keep up with the pace in adopting IA in an individual level of legal practice will determine if the 4IR is a blessing or a woe.

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<sup>34</sup> Ibid Gravett WH p 27

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