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# TECHNOLOGY AND LAW: THE USE OF ARTIFICIAL INTELLIGENCE AND 5G TO ACCESS THE COURTS IN AFRICA

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## ABSTRACT

The application of the latest technological advances has the potential of giving the disadvantaged African persons the ability to have their matters heard and resolved by the courts of law. Access to justice is fundamentally important to the injured party, and it is a vital component of the protection, recognition and enforcement of human rights. Many African persons still lack the ability to afford legal fees due to poverty. This paper is to explore the use Artificial Intelligence (AI) and the Fifth-Generation Cellular Network (5G) to provide economically disadvantaged African people with the ability to access formal and informal institutions of justice and have their matters heard. Lastly, the paper provides recommendations of why it is necessary to consider reformation and modification of the traditional court system using technology.

**Keywords:** *Technology; Artificial Intelligence; 5G; Human Rights; Access to Court; Africa*

## INTRODUCTION

The ability to access the courts gives people the capacity to have their voices heard, exercise their rights, challenge discrimination and, hold decision makers accountable (United Nations and The Rule of Law, 2012, para 1). Francioni (2007) makes a good argument when he expresses the ability to access the courts as an indispensable component of the system of protection and enforcement of human rights. The Universal Declaration of Human Rights (UDHR) incorporates the key principles of equality before the law and the presumption of innocence, as well the right to a fair and public hearing by an independent and impartial tribunal, in conjunction with all the guarantees necessary for the defence of anyone charged with a penal offence including the minimum guarantees to be tried without undue delay (United Nations, 2015, 14-24).

The UDHR is one of many human rights instruments that lays an affirmative duty upon the African states to ensure adequate access to the courts. Sufficient access to the courts or justice in Africa is impaired by many factors, which include; information, illiteracy, poverty, and the decline in mechanisms of justice, but this essay will only focus on two issues, which are; (a) poverty and (b) the decline in mechanisms of justice (Bowd, 2009, 2-3). This paper combines the ability to access the courts as physical structures with the ability to access justice, as to the consultation with lawyers and other dispute resolution mechanisms; both these issues will be addressed as one. The words “access to justice” are not easily well-defined, but they focus on two basic legal components—the system that allows people to vindicate their rights and resolve their disputes under the auspices of the state; It must be easily accessible to all; secondly, it must lead to results that are socially just (Cappeletti & Garth, 1978, 182). This paper proposes the use of computer systems to perform tasks that typically require human intelligence, such as AI and the forever evolving cellular network such as 5G, mainly to overcome barriers to access the courts (Armour & Sako, 2020).

Equal justice has been mainly understood as equal access to justice which in return is considered to mean access to the law; the burning question is equal to what, or whom, and in answering this question it is essential to look at justice as an interdependent ecosystem which relies on the surrounding circumstances and implemented structures to function efficiently (Rhode, 2001, 1787). This paper will explore the newly developed technology as another piece of the puzzle to fit the ecosystem of justice and ensure adequate access to the courts, and this proposal will be addressed in different stages, which are; (a) firstly, the paper will look at the concept of AI and 5G, including the capacities the technologies possess in solving the deficiencies of the current court structure, (b) the human rights aspects that impose a duty upon the state to ensure effective access to the courts, (c) the link between human rights, technology, and the courts, including a South African approach, and lastly, (d) recommendations will be provided on how technology can improve



the court structure and ensure effective access to justice in the African continent.

### **TECHNOLOGY BRIDGING THE GAP BETWEEN JUSTICE AND ACCESS**

The ability to access the court has been reflected as a vital component of democracy and civil liberty (Andrews, 1999,557). The implementation of technologically friendly courts to improve access is not only for aesthetic consideration, but also for the advancement of democracies that exists. To narrow down the subject of technology, let us look at the characteristics of AI and 5G in modernizing the court process.

### **UNDERSTANDING THE CHARACTERISTICS OF ARTIFICIAL INTELLIGENCE (AI)**

In simple terms, artificial intelligence is the concept, theory, and practice of building intelligent machines, and its goal is the creation of artificial entities capable of rational behavior (Genesereth & Nilsson, 1987, 1). The development of AI is to construct an information-processing theory of intelligence that could be developed to guide the design of intelligent machines as well as to explicate intelligent behavior as it occurs in humans (Nilsson, 1980, 1). The application of AI in human practices is not to abolish the need for humans but to enforce a combination of man and machine for improved results. Some of the applicable sub-disciplines of AI include; (a) natural language processing, (b) intelligent retrieval from a database, (c) expert systems, (d) machine learning, (e) robotics, (f) combination and scheduling problems, and (g) vision, which is sometimes used in cases of facial and image recognition (Nilsson, 1980, 2-9). However, this paper will not focus on all of them; instead, it will consider the most relevant ones to the subject in question.

Natural Language Processing (NLP) concerns itself with the interaction between computers and human languages to process, analyse and interpret significant amounts of data in a short period of time, and it is understood as an interface of applying linguistic knowledge to computers, also to enhance more transparent communication between human and machine (Bateman et al., 2010, 1034). Secondly, AI provides a system of intelligent data retrieval, meaning that AI can orderly store a large volume of data, which can be obtain in relatively short amount of time; this system promotes a paperless storage environment (Akerkar, 2005, 10). Thirdly, the possibility is that the data fed to the system would be used later to predict future outcomes; however, this is not to say AI will replace human intervention, but it is to assist with accuracy guidelines to professionals and allow them to focus on more critical aspects of the profession rather burdensome administrative tasks which can be automated. Lastly, an effective helping hand is needed, whether directly or indirectly; the robotic element of AI can be a consideration, they are centered around the application of reinforcement learning which in principle is a family of machine learning, meaning that an agent(robotic system) learns a task by directly interacting with the environment, which in result, through familiarity an agent can process, analyse and present the data automatically without the human intervention, however under the supervision of a human being. (Leottau et al., 2018, 131).

### **THE FIFTH GENERATION CELLULAR NETWORK (5G)**

The personal convenience that is brought by mobile communication has been noticed through the constant change in our societal setting and the development of new markets and industries, through the 10-year-cycle generation after the first launch in 1978 (Maeng et al., 2020, 1). The second generation of mobile communication (2G) introduced a voice-based communication among people, third-generation of mobile communication (3G) came with the wireless internet, the fourth generation of mobile communication (4G) provided a variety of services, which included video conferencing, shopping, and entertainment through high-speed wireless internet, which acted as a push factor for the 4th industrial revolution (Maeng et al., 2020, 1-2). As a result, this opened a floodgate for the need of a next-generation communication technology that can process large amounts of data in real-time (Maeng et al., 2020). The emergence of the fifth generation of mobile communication (5G) is expected to expand the mobile communication market in both the infrastructure and as an innovative platform, with a ten times faster maximum transfer rate and ten times more significant maximum number of connections (Maeng et al., 2020, 2). The 5G is expected to bring the following innovative qualities; (a) high-speed connection that enables the use and transfer of large amounts of data-based content such as ultra-high-definition, (b) virtual reality, and augmented reality, (c) ultra-low



latency that can also support real-time services that require immediate response without delays such as telemedicine and autonomous vehicles for emergency response, and finally, (c) 5G is to be utilized as the underlying technology of the Internet of Things (IoT), which involves smart homes and smart cities (Maeng et al., 2020, 2-3).

With the above-given information, now the question is how this technological advancement relates to the courts, and how such a sophisticated system would benefit African countries. Before this question can be answered, firstly, a burden must be pointed upon the State to implement effective measures to make sure that people have adequate access to the courts, which in turn, we will look at the concept of access to justice in the African dialogue.

### **THE LEGAL DUTY ON A STATE TO IMPLEMENT EFFECTIVE MEASURES TO PROVIDE ADEQUATE ACCESS TO THE COURTS**

The UDHR adopted by the United Nations General Assembly (UNGA) in 1948 is recognised as the first human rights law instrument, which realizes a common standard of achievement for all persons and all nations, the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic Social and Cultural Right (ICESCR), together constitute the international Bill of Rights (Addaney et al., 2019, 338-339). Article 14 of the ICCPR states that;

All persons shall be equal before the courts and tribunals. In the determination of any criminal charge against him, or of his rights and obligations in a suit at law, everyone shall be entitled to a fair and public hearing by a competent, independent and impartial tribunal established by law (International Covenant on Civil and Political Rights, 1976).

The inability of people living in poverty to access legal and adjudicatory process mechanisms is a violation of human rights as stipulated according to Art.14 of the ICCPR (United Nations Human Rights Office of the High Commissioner [OHCHR], 2012). Lastly, the African Charter on Human and Peoples Rights (ACHPR) provides valuable articles which cannot be ignored when determining the duty of a state to provide sufficient access to justice, which is hinged in the following; Art.3 deems everyone equal before the law and entitled to equal protection, and Art. 7 (1)(a) and (b) gives people the right to be heard by a competent court and to be presumed innocent until proven guilty (Banjul Charter, 1982).

The above-stipulated instruments assure that the right to access the court is a fundamental human right that every person is entitled to vindicate and enjoy. The ability to have a person's matters heard by the court of law should not depend on the vagaries of where one lives and how much money they have, but everyone should receive equal treatment before the law. However, there is still a global need for a system that can reduce legal costs and delays, as this is premised on the recognition that many citizens and groups are effectively barred from the courts by the high costs and delays in litigation (Tate, 1979, 907). Therefore, based on the abovementioned human rights instruments, there is an affirmative duty upon the states to adopt active measures in giving people an updated platform to have their matters heard and decided by a court of law.

### **A POSITIVE CONNECTION BETWEEN HUMAN RIGHTS, TECHNOLOGY, AND THE COURTS**

International human rights instruments impose a duty upon a state to adopt effective measures to ensure adequate access to justice. This is to say, a country must recognise faults in the current system and not just end there but also take active steps in implementing or developing a system that will be more appropriate and serve its purpose. In turn, the human rights position applies pressure to the state to consider measures that will make it possible for ordinary people to enjoy their fundamental human right of having the ability to access the courts efficiently. This paper proposes technology as an ultimate solution in bringing the courts closer to the marginalised citizens. Bateman et al makes it clear in emphasizing that the newly developed machines can process, analyse, and interpret large amounts of data (2010). The court process can adopt this system and use



it for case filing, arrangements, and other useful methods that can reduce delays in court proceedings. The Fourth Industrial Revolution (4IR) is putting pressure on state organs to reduce physical filing and move towards a paperless approach ("We need to build data capability in South Africa", 2020). The need for a new court filing system was realised when the Pretoria High Court in South Africa lost a total of 45,000 physical trust files when a heavy storm destroyed the court roof, the lost files included some of the essential documents, such as the deeds of trust, wills, application forms, declarations, and copies of ID documents, and as result of such incident, access to justice is impaired. ("Pretoria Master's Office missing 45,000 trust files", 2019). It is to say that these kinds of incidents are either directly or indirectly causing harm to the effectiveness of the courts in Africa, and prevention is vital. Through the development of AI, a solution can be revised, especially when it comes to data storage and retrieval (Akerkar, 2005,10). It critical that relevant information is protected and processed efficiently; however, an automated robotic system can be useful in cases of disaster management and unforeseen circumstances. (Leottau et al., 2018, 131). The 5G is the last piece of the puzzle, as it is mainly to foster active data exchange and sharing of information to reduce case backlogs and delays. The sharing of real-time data will reduce logistical problems in the court structures, as it will create an integrated national court system that is unified and harmonised by practice (Maeng et al., 2020).

There is a need for a system that is friendly to the non-lawyers in the promotion of inclusivity for the marginalized. One famous cause for poor people being unable access the courts is affordability (Susskind & Susskind, 2016, 67). Repetitive and routine work such as litigation, due diligence, contract drafting, and rudimentary legal research contributes to the high costs of accessing lawyers, as a result, the automation of some tasks in these works can make a great difference in affordability and accessibility. COVID-19 played a catalytic role in exacerbating online dispute resolution (ODR) through the platforms such as Zoom. For example, before COVID-19, ODR techniques have always been used in platforms such as eBay to sort out more than 60 million disagreements that arise amongst traders each year (Susskind & Susskind, 2016, 70). These are some of the examples of the application and use of computing systems to resolve disputes and provide access to justice. The current system has been present for centuries, and one cannot deny that change will take time, however, a step a day will bring us closer to the realization of effective democracies that protects the application of law.

However, with every victory comes challenges, it does not mean that the digitization of the court process will solve all our ongoing and imminent burdens. There are also questions of cybersecurity and cybercrimes, which in October 2019 the municipality of Johannesburg was held ransom and all its websites and e-services was shut down and attackers demanded several bitcoins to free the municipality operations ("We need to build data capability in South Africa", 2020). Consciousness in matter of cybersecurity is vital for us to mitigate and foresee such crimes before they materialize.

### **RESEACH QUESTIONS RELATED TO THE STUDY**

The following research questions have been developed based on the provided background; however, this study does not provide answers for all of them due the nature of the article and the guidelines it must adhere to. This work does not deal with the procedures in implementing the system instead proposes an idea that needs collective contribution from various professions. The research questions are as follows;

- (a) Can the court process completely rely on technology to conduct its daily business?
- (b) Is the legal framework doing enough to address and regulate the use of technology in the court proceedings?
- (c) Is the benefit of using technology in the court process greater than threat it poses?
- (d) What is the readiness of Africa in dealing with the consequences related to the use of technology in critical areas such as the courts?
- (e) What procedures that needs to be applied by African states to fully incorporate technology in the daily operations of state organs?



## RECOMMENDATIONS DECUDED FROM THE STUDY

The following recommendations and lessons are extracted from the above study; however, the list below consists of the main concerns and points of attention, instead, there is more learnt from the use of technology to provide access to justice. The lessons and recommendations are as follows;

- (a) The application of technology in the court proceedings can directly or indirectly be a result of the African persons enjoying the indispensable right to access the courts;
- (b) Technology is not to overthrow the traditional system of the courts, but it is to be used as a modification instrument that benefits that judiciary in reaching the vulnerable people of the society;
- (c) The available human rights instruments impose a duty upon the African countries to develop its structures to benefit everyone in the society regardless of their economic status;
- (d) There is a need for a system that can store and process data quickly in the court structures for the purposes of reducing delays and providing access to justice for everyone concerned;
- (e) Consciousnesses around issues relating to technology will not only make us aware of opportunities in the field, it will also prepare us to deal with the potential threats that comes with it.

## CONCLUSION

High caseloads, backlogs and delays creates a sense of urgency for an alternative system to remove such impediments in the administration of justice. The application of AI and 5G in the court modification and reformation can have a lasting positive impact in access to justice matters. The definition of access to justice incorporates both the traditional court route and ODR which is mostly termed as alternative dispute resolution (ADR). Both these avenues deserve equal recognition, support, and improvement to ensure that they serve everyone equally, regardless of the individual's economic status. The advancement of technological applications has the potential of unlocking various opportunities for the disadvantaged persons in Africa including state organs. Early preparations will put us in a better position to understand and mitigate the risks that come with the application of technology in vital fields such as the judiciary.

## TABLE OF ABBREVIATIONS

1G	First Generation Cellular Network
2G	Second Generation Cellular Network
3G	Third Generation Cellular Network
4G	Fourth Generation Cellular Network
5G	Fifth Generation Cellular Network
ACHPR	African Charter on Human and Peoples Rights
ADR	Alternative Dispute Resolution
AI	Artificial Intelligence
COVID-19	Coronavirus
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic Social and Cultural Right
ODR	Online Dispute Resolution
UDHR	Universal Declaration of Human Rights
UNGA	United Nations General Assembly

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