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THE ROLE OF ARTIFICIAL INTELLIGENCE IN CIVIL LITIGATION

BY

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1.1 Abstract

Artificial Intelligence (AI) is a transformative technology that has emerged in the early twenty-first century, enabling computers to perform tasks traditionally requiring human intelligence. This study examines the role of AI in civil litigation in South Africa, focusing on its growing influence in legal practice. The adoption of AI in civil litigation is expanding at an unprecedented rate, surpassing initial expectations and progressing more rapidly than the first industrial revolution. This research explores the key areas of civil litigation impacted by AI, including online dispute resolution, electronic discovery and document review, legal research, and predictive analytics. As AI continues to reshape legal processes, it is essential to assess both its benefits and potential risks. Furthermore, this study proposes regulatory measures to ensure the ethical and responsible use of AI in civil litigation. The absence of a clear regulatory framework poses significant threats to fundamental procedural guarantees in civil justice, including the right to a fair trial, equality, human dignity, freedom, and effective adjudication. Accordingly, this research seeks to address the fundamental rights concerns associated with the unethical use of AI-driven tools in legal practice. By doing so, it aims to contribute to the development of a legal framework that upholds the integrity of the legal profession while embracing technological advancements.

1.2 Background

Artificial intelligence (AI) is not just a quickly developing technology; it is also the most transformative and disruptive technology of the modern days due to its ability to execute activities performed by humans and learns from experience.[1] Humans are increasingly depending on AI-powered technologies to maintain and operate our digital and physical infrastructure.[2] The law must develop together with technology in order to keep up with its evolving capabilities. The legal profession will be significantly disrupted by the digital age, which will both negatively and positively influence the practice of law and the financial prospects of legal practitioners.[3] The involvement of AI in civil litigation practice will impact the manner in which legal practitioners conduct business, interact with their clients, and run the practice.[4] Practicing law during such a technological age may make it less reliant for some law firms however, may make it possible for more solo

[1] Barfield W "T*owards a Law of Artificial Intelligence*" in Barfield W and Pagallo U (eds) Research Handbook on the Law of Artificial Intelligence (2018) 2.
[2] Barfield (n 1 above) 2.
[3] WH Gravett '*Is the Dawn of the Robot Lawyer upon us? The Fourth Industrial Revolution and the Future of Lawyers'* (2020) PER/PELJ 5.
[4] Susskind R *'Tomorrow's Lawyers'* (Oxford University Press: Oxford 2017) 3-15.

practitioners and small law firms to enter the market and provide services for which they would now have to pay unreasonably high expenses.[5] The increased efficiency that results from this allows small law firms and single practitioners to take on cases that they previously would not have considered to be financially viable.[6]

The role of Artificial intelligence (AI) in civil ligation is a game-changing technological tool in the modern world.[7] The role of AI and AI-assisted technologies is expanding globally in tandem with research, development, skill development, and capacity building.[8] Many governments around the world, including African countries governments, are starting to use AI for public services, and the African private sector continues to benefit from the usage of AI in the sector.[9] Artificial Intelligence is defined as a computer's ability to execute tasks that would normally need human intelligence.[10] This refers to the capacity for reason, searching for meaning, generalisation, and experience-based learning.[11] Natural language processing, deep learning, and machine learning are the three categories that make up artificial intelligence.[12] Machine learning is defined as the usage of algorithms to assess large amounts of information and learn from it, or to execute calculations without the requirement for exact and well-defined programmed instructions.[13] Neural networks are the foundation of deep learning.[14] The primary objective of neural networks is to simulate the functionality of neurons in the brain of an individual.[15] Natural language refers to the ability of algorithms and software to construct, analyse, comprehend, and generate human language, mainly language that was written.[16]

The study demonstrates that AI is beginning to influence the majority of African governments and the commercial sector for both public and private purposes.[17] The development of AI impacts civil

[5] Gravett (n 3 above) 5.
[6] Gravett (n 3 above) 5.
[7] Manes T '*Is it Time to Regulate the Use of AI in Litigation'* (Lexology: Canada 2023) www.lexology.com accessed 3 May 2024.
[8] Z E Xaba '*Governing Artificial Intelligence Under the African Human Rights System: Drawing Lessons From International Best Practice*' (LLM Dissertation University of Pretoria 2021) 1.
[9] Xaba (n 8 above) 1.
[10] Turing A M '*Computer Machinery and Intelligence'* (1950) Mind 433.
[11] Turing (n 10 above) 433.
[12] Gravett (n 3 above) 7.
[13] Gravett (n 3 above) 7.
[14] Gravett (n 3 above) 7.
[15] Gravett (n 3 above) 7-8.
[16] Gravett (n 3 above) 7-8.
[17] Xaba (n 8 above) 1.

litigation due to the fact that many lawyers' time is spent on the tasks that can be automated.[18] Most of the time, civil litigation is expensive, inefficient, slow, and inaccessible to those who do not practice law.[19] In addition, a greater number of people have access to the internet than legal service.[20] Consequently, the majority can afford to buy data but cannot afford legal services since litigation and legal advice are expensive.[21] Furthermore, there is a lengthy delay in resolving legal disputes and court proceedings, and majority of the people in rural areas may possibly not have effective access to legal practitioner to acquire legal advice and guidance.[22] On the other hand, legal aid is limited in South Africa, especially in civil disputes.[23] As a result, access to justice, access to information and effective legal assistance are in serious jeopardy of being available only to the rich.[24] Thus, the computerisation of the legal system might enhance access to justice and information. For example, look at the impact of the Gauteng High Court's online court system, which allows legal practitioners to file documents without having to appear in court. Furthermore, the system allows for simple online management of court appearance diaries and court evidence. As a result, the process is faster, more convenient, and efficient because parties can exchange and serve documents electronically, parties' legal representatives respond quickly, document inspection is easily performed electronically, and litigating parties receive hearing dates within a reasonable time frame because everything is completed on time.

Many lawyers argue that AI will replace human's significance; however, AI will not replace lawyers completely.[25] AI will expand the scope of what lawyers can do, both by boosting efficiencies and by increasing the value of unique human skills.[26] AI will transform the legal profession by automating certain aspects of it, and legal professionals will be able to make use of these latest technologies to improve their professional services while also supervising, questioning, and interpreting the AI.[27] This would help resolve the criticism by the people that the legal system is expensive, ineffectiveness, errors, and unnecessary delays caused by the litigation process.[28] In

[18] Susskind (n 4 above 21.
[19] Gravett (n 3 above) 7-8.
[20] Susskind (n 4 above) 93.
[21] Susskind (n 4 above) 93.
[22] *'Department of Justice and Constitutional Development TC5 Reports Issues of Access to justice Part III'* https://www.justice.gov.za/constitution/history/REPORTS/TC5-2703B.PDF.
[23] Department of Justice and Constitutional Development TC5 Reports (n 22 above).
[24] Susskind (n 4 above) 106.
[25] McGinnis and Pearce *'The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services'* (2014) 82 Fordham L. Rev. 3041.
[26] Legg M and Bell F '*Artificial Intelligence and the Legal Profession: Becoming the AI-Enhanced Lawyer*' (2019) 38(2) University of Tasmania Law Review 34.
[27] Legg and Bell (n 26 above) 34.
[28] Susskind (n 4 above) 106.

the middle of the 1990s, Lord Woolf recommended that a large portion of the civil justice system be computerised.[29] Legal research, predictive analytics, self-help, e-discovery and document review, automated contract analysis, and due diligence are just a few of the litigation practice areas that will be influenced by AI.[30] Bowmans is amongst the first Pan African law firms to invest in AI.[31] This is AI technology, called Kira, it was created to increase productivity in a few important legal activities, mainly compliance, private equity, and merger & acquisition.[32]

The United Kingdom Serious Fraud Office: Corruption Investigation into Rolls Royce, developed in the RAVN, uses machine learning to automatically identify and extract data from contracts.[33] Compared to a junior lawyer finishing a task by hand, this operates far more quickly.[34] The majority of lawyers use LexisNexis and Jutastat for online research. The two aforementioned databases have already started moving in this manner. Research can be done more quickly using electronic resources than through manual library searches. Digitised legal research, however, does not always imply superior representation because keyword searches are both under-inclusive and over-inclusive. The writer may include irrelevant resources in the research, and digitised research may be insufficient, expensive, or both. The existing and emerging AI system will influence the manner in that certain legal services are offered.[35] As a result, all of this will irreversibly change the civil practice.

1.3 Problem statement

The dissertation seeks to explore Artificial Intelligence in the enhancement of civil litigation practice in South Africa. The dissertation will propose recommendations for the regulation of AI in order to further safeguard both the integrity of the legal profession and the public.

[29] Susskind (n 4 above) 104.
[30] McGinnis and Pearce (n 26 above) 3043.
[31] Truter C 2018 '*Bowmans among the First in Africa's Legal Market to Invest in Artificial Intelligence'* https://www.bowmanslaw.com/press_releases/bowmansinvests-in-artificial-intelligence/ (accessed 4 March 2023).
[32] Truter (n 31 above).
[33] Gravett (n 3 above) 19.
[34] Gravett (n 3 above) 19.
[35] McGinnis and Pearce (n 25 above) 3054.

1.4 Objective of the research

To achieve this endeavor, the study has the subsequent objectives:

a. To analyse the role of Artificial Intelligence (AI) in civil litigation in South Africa.

b. To investigate the tasks of civil litigation that can be automated.

c. To investigate whether computerisation of the civil justice system would influence access to justice, access to information, fast civil litigation process and enhance court case finalisation.

d. To provide a comparative analysis on the role of Artificial Intelligence on civil litigation with other jurisdictions outside South Africa. A comparative study with the Republic of China and the United State of America.

1.5 Research Questions

To accomplish this task, the research has to answer the following question:

1.5.1 The main question for research.

a. What would be the role of Artificial Intelligence in civil litigation?

1.5.2 Sub-questions

a. To what extent would Artificial Intelligence revolutionise civil practice in the future?

b. To what extent would Artificial Intelligence be used in civil litigation without disrupting human importance?

1.6 Research methodology

Qualitative Research method is used for this dissertation. The research focuses understanding the importance that individuals or groups place on social, legal, political, or human problems.[36] Qualitative researchers, for instance, subscribe to plausible theory testing, prejudice safeguards, controlling for alternative hypotheses, and the ability to generalise and reproduce findings.[37] The study materials employed in this study include both primary and secondary legal resources. The

[36] Creswell J W *'Research Design: Qualitative, Quantitative and Mixed Methods Approaches'* (SAGE London 2006) 21.
[37] Creswell (n 36 above) 22.

primary legal sources that are employed in this research consist of the Constitution Republic of South Africa (1996), international instruments, case laws, national legislation, and governmental policies. The secondary sources consist of the group and breakdown of academic literature, as such textbooks, articles, journals, internet resource and reports. It is critical to employ a qualitative research approach in this research to ensure that the research findings are valid, supported by concrete data and construct the appropriate context for the investigation. Similarly, a literature review on Artificial Intelligence and practice of law development was performed.

1.7 Literature review

1.7.1 The concept Artificial Intelligence (AI)

AI is defined as,[38] ‘’the computer's ability to imitate human intelligent behaviour, especially human cognitive functions, such as the ability to reason, discover meaning, generalise and learn from past experience.’’ AI consists of three parts, namely, deep learning, natural language and machine learning.[39] An algorithm is defined as a series of instructions written by a programmer for software to follow.[40] This is referred to a basic unit of AI.[41]

1.7.2 The use of AI in civil litigation

Artificial Intelligence will be used permanently and transformative in civil practice and legal practice. This will have a profound impact on civil litigation, how lawyers run their practice, and interact with clients. Machine intelligence will have a significant role in various aspects of civil litigation, including online dispute resolution, e-discovery and document review, legal research, and predictive analytics.[42] Compared to junior lawyers, machine intelligence research databases ensure efficiency by enabling faster research than manual library searches. Research will become more effective in precisely locating caselaw and assessing it for persuasiveness as AI hardware and software capabilities continue to advance, replacing less effective research.[43]

[38] Turing (n 10 above) 433.
[39] Gravett (n 3 above) 7.
[40] Oxford English Dictionary ‘*The definition of algorithm*’ https://en.oxforddictionaries.com/defifinition/algorithm.
[41] Oxford English Dictionary (n 40 above).
[42] Xaba (n 8 above) 7.
[43] McGinnis and Pearce (n 25 above) 3048-3040.

A relatively new field called "predictive analytics" uses data analysis and data integration to generate predictions.[44] With the use of predictive analytics, it is possible to access a plethora of data and methodically mine it in order to determine the case's anticipated outcome.[45] Computers are used in the e-discovery process to look up terms in a database that lawyers deem relevant.[46] While e-discovery and document review certainly assist users in cutting down on the time and costs associated with research and discovery, it is unlikely that these practices would be considered fundamentally disruptive to the legal sector or profession.[47] This online dispute resolution tool, which is intended to be utilised without the help of lawyers, is required in minor commercial disputes.[48] Parties to an online dispute resolution can upload papers and other evidence to the website then an AI judge will then make a decision that can be appealed by a human judge.[49] Furthermore, in the first challenged case concerning the admissibility of "machine learning" technology, the United Kingdom High Court ruled in favor of the usage of predictive coding in electronic disclosure in 2016.[50] Online courts were implemented in Wales and England as part of a government reform programme.[51] The Online Dispute Resolution Advisory Group of the Civil Justice Council is responsible for the creation of these virtual courts.

1.7.3 The usage of AI in other jurisdictions outside South Africa

It is critical to learn from the experiences of other countries outside South Africa. Other countries around the world are developing AI in the workplace at a faster rate than South Africa. However, for the sake of this study, we shall focus on the Republic of China and the United States of America. The courts of the aforementioned countries have approved the use of AI in litigation process and have better regulations in place for personal data protection in AI. China has rapidly climbed to the forefront of the AI sector, establishing itself as a key global power in AI.[52] China is pursuing AI capabilities at a substantially higher rate, and its government is still pouring billions of dollars into the field.[53] Beijing unveiled its "Made in China 2025" strategy in 2015 with the goal of

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[44] McGinnis and Pearce (n 25 above) 3052-3053.
[45] McGinnis and Pearce (n 25 above) 3052-3053.
[46] McGinnis and Pearce (n 25 above) 3051-3052.
[47] McGinnis and Pearce (n 25 above) 3051-3052.
[48] Susskind (n 4 above) 111-115.
[49] Susskind (n 4 above) 111-115.
[50] Smith C *'2016 High Court Backs Predictive Coding in First*' https://www.lawgazette.co.uk/practice/high-court-backs-predictive-coding-in-first-contestedcase/5055377.article (accessed 4 March 2024).
[51] Susskind (n 4 above) 111.
[52] Jacob S *'AI Regulations Around the World: A Comprehensive Guide to Governing Artificial Intelligence'* (2024) https://www.spiceworks.com/tech/artificial-intelligence/articles/ai-regulations-around-the-world/ (accessed 8 May 2024).
[53] WH Gravett *'Digital Colonaser? China and Artificial Intelligence in Africa'* (Routledge 2020) 1.

controlling the cutting edge of technology.[54] The country's objective of becoming the leading AI innovation hub by 2030 is well on track, ushering in a decade of technological domination. Also, the impact of AI in the United States of America, have increased in the legal profession and civil litigation. The United States Court of Appeals, in 2015 decided that[55] "with much less effort, technology-assisted review can (and does) yield more accurate results than exhaustive manual review." The research[56] indicates that USA has developed numerous AI-assisted tool that are used to enhance civil litigation practice that South Africa can learn from. The decentralised model of AI regulation in the United States represents its broader approach to governance.[57] In general, most regulatory practices and laws are sector-specific, and the same structure closely mirrors the AI domain. To summarise, there is no single federal regulatory framework that is comprehensive for certain areas of artificial intelligence.[58]

1.7.4 Regulation of Artificial intelligence (AI)

Artificial intelligence (AI) has emerged as a dominant factor driving transformation across industries.[59] However, given its rapid adoption and rising complexity, South Africa needs strong AI and machine learning regulation.[60] In South Africa, there is no official regulation or framework governing the use of artificial intelligence.[61] As a result, because South Africa lacks a specialised AI legislation, it will be impacted by components of the existing legal structure, such as personal data, use cases and risk management, cybersecurity, and copyright protection.[62] The European Union and Republic of China have legally binding regulations and rules governing the usage and creation of artificial intelligence in their respective countries. On March 13, 2024, the European Parliament passed the European Union Artificial Intelligence Act,[63] which protects safety and

[54] Gravett (n 53 above)1.
[55] Lola v Skadden Arps 620 Fed Appx 37 at 45 (2d Cir 2015).
[56] Legg and Bell (n 26 above) 38.
[57] Jacob (n 52 above).
[58] Jacob (n 52 above).
[59] WH Gravett *'The Dark Side of Artificial Intelligence: Challenges for the Legal System'* (2020) Vol 35 No 1 https://doi.org/10.25159/2522-6800/6979 1 accessed 12 May 2024.
[60] Tony S *'Understanding the Legal Risks Associated with Artificial Intelligence (2020) October The SA Attorneys'* Journal (De Rebus) https://www.derebus.org.za/wp-content/uploads/2020/09/DR_Journal_October_2020.pdf 9-11 accessed 12 May 2024 .
[61] Boda R, Gunning E and Ntuli L *'The EU AI Act Passes: Should South Africa follow suit and regulate Artificial Intelligence?'* 19 March 2024 https://www.ensafrica.com/news/detail/8261/the-eu-ai-act-passes-should-south-africa-foll#:~:text=While%20AI%20remains%20largely%20unregulated,unlawful%20processing%20of%20personal%20information (accessed 12 May 2024).
[62] Boda, Gunning and Ntuli (n 61 above)
[63] Article 1 European Union Artificial Intelligence Act, (2024)

adherence with basic rights while promoting innovation. While in China, no company may build AI services without the government's consent.[64]

1.8 Limitation of the study

This research is mainly limited to the role of Artificial Intelligence on the legal practice, particularly civil litigation. As a result, the study will use both local and international published literature focusing on the recent development of Artificial Intelligence in civil litigation and business. Furthermore, the research will focus on any legal mechanism that lawyers can employ to ensure that the usage of AI in civil litigation does not entirely replace the importance of lawyers. Furthermore, the study will ensure that it provides recommendations that guarantee that the usage of AI in civil litigation does not affect the integrity of the legal profession or the public.

1.9 Chapter outline

This research is structured into five parts:

a. Chapter one: Introduction

This chapter will consist of the introduction and background of the study; problem statement; objective and aims of the research; research methodology; literature review; rational of the study; limitation of the study; preparatory study and research; and chapter outline.

b. Chapter two: The notion Artificial Intelligence and Practice of Law

This chapter will explore the core principles of artificial intelligence, deep learning, algorithms, machine learning, and language processing. Also, the chapter will deal with the advancement and usage of artificial intelligence in civil litigation and legal practice around the world. The chapter will look at the legal consequences of the world technological transformation. This chapter will discuss the significance of AI in the practice of law. Furthermore, this section will look at AI as a transformational and disruptive technology. This part of the research will focus on the fundamental and complicated concerns of AI that the law should address. Furthermore, the goal of this chapter is to address the significant variables and concerns of AI.

[64] Sheeham M '*China's AI Regulations and How They Get Made'* (Massachusetts Carnegie Endowment for International Peace 2023) 15-16.

c. Chapter three: **The areas of civil litigation practice disrupted by Artificial Intelligence**

This chapter will deal with the main aspects of civil litigation that will be transformed by AI. The chapter would unpack on the nature and significant role that AI would play in various aspects of civil litigation practice, including online dispute resolution, online court, e-discovery and document review, legal research, and predictive analytics. The section would discuss how disruptive technological tools impact the legal services sector. Furthermore, it will have an impact on how some legal services are provided, as well as the reform of the civil justice system. This study would concentrate on the assistance that AI-assisted tools would offer to law firms and legal practitioners in civil litigation practice. In addition, the objections and gaps that machine intelligence might present to legal practitioners in civil litigation.

d. Chapter four: **Comparative analysis on the impact of artificial intelligence in civil litigation in other jurisdictions**

This chapter will focus on the comparative analysis on the role of AI on civil litigation with other jurisdictions outside South Africa. This study will include comparative study with the Republic of China and United State of America. This chapter will focus on AI progress of the two countries mentioned above particularly in the practice of law and civil litigation. This part of the study will look at the comprehensive overview of AI regulations of the countries mentioned above. This part of research will find out how those two countries aforementioned are governing AI and the key considerations for developing AI regulations.

e. Chapter five: **Recommendation**

This chapter will collect the study findings and make recommendations on the role of artificial intelligence (AI) in civil litigation. In addition, the section will make recommendations for AI regulation in order to protect the public and the legal profession's integrity. This chapter will establish ethical guidelines to ensure that the public and lawyers are not overcharged for the service and installation of technical tools by software programmers, and that there is also transparency. Also, those law firms are not charging client excessive legal fees for their services. Furthermore, the chapter will make recommendations for legal protection of the individual whose personal data is collected, communicated, or stored against fraudulent or disinformation. The chapter will give advice to prevent the use of unfair or biased data in an algorithm.

Chapter Two: The notion Artificial Intelligence and Practice of Law

2.1 Introduction

Advancements in Artificial Intelligence (AI) technology have significantly reshaped the way individuals perform both personal and professional tasks.[65] As highlighted in Chapter One, the legal profession is not immune to this transformation. Despite AI's longstanding presence, misconceptions and oversimplifications persist, influencing perceptions of its potential benefits and risks in the workforce.[66] Addressing these misconceptions is crucial to understanding how AI can enhance legal practice while mitigating potential challenges. This chapter explores fundamental AI concepts, including deep learning, algorithms, machine learning, and natural language processing. It also examines the global development and integration of AI into legal practice, emphasizing its growing role in the legal sector. Furthermore, this chapter considers AI as both a transformative and disruptive technology, analysing its legal and ethical implications in the context of rapid technological advancements. Particular attention is given to the complex legal challenges that AI presents and the necessity of regulatory frameworks to address them. Ultimately, this chapter aims to provide a comprehensive analysis of the key factors and challenges associated with AI in legal practice, laying the groundwork for further exploration in subsequent chapters.

2.2 The notion of Artificial Intelligence

2.2.1 Artificial Intelligence (AI)

It can be difficult to define the term artificial intelligence. Fewer consensuses exist around the meaning of artificial intelligence. Nonetheless, the government, academic community, and computer science field have produced a number of useful definitions of AI. There are constant changes to the phrase. For the purpose of this research study Artificial Intelligence is defined as:[67] The ability of a computer to execute tasks that would normally need human intelligence. This includes the capacity of a computer for reasoning, searching for meaning, generalisation, and experience-based learning.

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[65] I Pietropaoli '*Use of Artificial Intelligence in Legal Practice (British Institute of International and Comparative Law: British'* (2023).
[66] Xaba (n8 above) 13.
[67] Turing A M '*Computer Machinery and Intelligence'* (1950) Mind 433.

According to the research of Alarie AI is defined as:[68]

> A slightly ambiguous area of computer science that aims to create machines that can behave in ways that human would consider intelligent.

Furthermore, AI is defined by the Department of Computer Science at the University of Pretoria as:[69]

> A constellation of technologies that enable machines to act with highest levels of intelligence and emulate human capabilities to sense, comprehend and act. These human capabilities augmented by the ability to learn from experience and adapt over time.'' This simply means that AI enables machine to sense their environment, think, and in some cases learn, to take action in response to the environment and the circumstances underpinning it.

According to this research, as previously mentioned in Chapter one, artificial intelligence (AI) is made up of three main components: machine learning, deep learning, and natural language processing. Each of these components will be explained in greater detail later in this chapter.

2.2.2 Machine Learning (ML)

Artificial intelligence has advanced dramatically with the advent of machine learning (ML). Machine learning is the study of building computer systems that are designed to process and analyse data in order to derive logical conclusions about the world.[70] For purpose of this research machine learning is defined as:[71]

> The usage of algorithms to assess large amounts of information and learn from it, or to execute calculations without the requirement for exact and well-defined programmed instructions.

This includes the notion that computer systems are built to learn, make decisions, predict outcomes, adapt to changes, and respond to them while getting better with practice, all without having to be specifically written.[72] Machine learning uses an algorithm to analyse data during this

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[68] Alarie B at el *'How Artificial Intelligence Will Affect the Practice of Law'* (2017) http://dx.doi.org/10.2139/ssrn.3066816 (accessed 22 June 2024) 8.

[69] '*Access Partnership and University of Pretoria Artificial Intelligence for Africa: An opportunity for growth development and democratisation'* (2019) https://www.up.ac.za/media/shared/7/ZP_Files/ai-for-africa.zp165664.pdf#:~:text=In%20Africa%2C%20AI%20can%20help%20with%20some%20of,productivity-boosting%20technology%20to%20fuel%20the%20growth%20the%20continentneeds (accessed 22 June 2024) 5.

[70] Aronson J '*Computer vision and Machine Learning for human rights video analysis: case studies, possibilities, concerns and limitation'* (2018) Law and Social Inquiry 6.

[71] WH Gravett *'Is the Dawn of the Robot Lawyer upon us? The Fourth Industrial Revolution and the Future of Lawyers'* (2020) PER/PELJ 7.

[72] Gravett (n71 above) 7.

process in order to look for relationships or the lack of them.[73] In other words, it finds patterns in the data and makes predictions about particular results.[74] Repetition of instructions allows for the discovery of patterns in the data, both similar and different.[75]

Supervised and unsupervised learning are the two types of learning techniques used in machine learning (ML).[76] In supervised learning, the computer is trained to recognise an object of interest in other datasets that are unfamiliar to it by the programmer using a labeled dataset of the object of interest.[77] This suggests that in order for the system to recognise the objects of interest in the novel dataset, it has to use its training from the labeled dataset..[78] Whilst unsupervised learning involves programming a computer system to recognise patterns in an unlabeled dataset.[79] The features of the dataset will be the basis for the system's decisions.[80] Whether it is done under supervision or unsupervised, machine learning generates output that categorises additional data to draw potentially erroneous conclusions.[81] Furthermore, it's important to recognise that machine learning is a continuum that extends from rather straightforward algorithms to intricate self-learning systems that may one day approach the complexity of the human brain.[82]

Assessing how a litigant's present case fits into the body of published court decisions may be a challenging task for lawyers.[83] A single legal matter may be influenced by thousands or even hundreds of court rulings.[84] Furthermore, every disagreement is distinct, frequently in ways that even the most experienced lawyers are blind to.[85] Despite their extensive training, lawyers are prone to personal prejudices and have a limited capacity to consider all pertinent judgments.[86] By

[73] Aronson J *'Computer vision and Machine Learning for human rights video analysis: case studies, possibilities, concerns and limitation'* (2018) Law and Social Inquiry 6.
[74] Aronson (n70 above) 6.
[75] Aronson (n70 above) 6.
[76] Aronson (n70 above) 6.
[77] Aronson (n70 above) 6.
[78] Aronson (n70 above) 6.
[79] Aronson (n70 above) 7.
[80] Aronson (n70 above) 7.
[81] Aronson (n70 above) 7.
[82] WH Gravett *'The Dark Side of Artificial Intelligence: Challenges for the Legal System'* (2020) Vol 35 No 1 https://doi.org/10.25159/2522-6800/6979 (accessed 12 May 2024) 5.
[83] Alarie (n68 above) 10.
[84] Alarie (n68 above) 10.
[85] Alarie (n68 above) 10.
[86] Alarie (n68 above) 10.

predicting the likely success of a specific litigation tactic in a more impartial and independent manner, machine learning algorithms may assist in the overcome of these biases.[87]

2.2.3 Deep Learning (DL)

Machine learning (ML) that uses deep neural networks (DNNs) is called deep learning (DL).[88] Multi-layer neural networks, or deep neural networks, have two or more hidden layers.[89] The output of earlier layers is transformed nonlinearly in each of those layers, and the order of these transformations results in the learning of various abstraction levels.[90] Neural networks are used in deep learning, a type of machine learning, to transform a set of inputs into a set of outputs.[91] This essentially implies that it connects a series of nodes designed to mimic the activity of neurons in the human brain using "neural networks" in order to identify complex patterns in datasets.[92] Deep leaning is defines as:[93]

> A process that learns the relationship among several variables as well as the knowledge governing the relationship.

Deep learning (DL) demonstrates a great deal of potential in handling more complicated tasks with high-dimensional data, which can lead to important advancements in computer vision and natural language processing.[94] The state of the art in several machine learning domains, such as identifying objects, identification of speech, and translation of language, has improved dramatically with the emergence of deep learning.[95] Although it has been shown that reinforcement learning (RL) approaches provide scalable and efficient online learning algorithms for communication systems challenges, "the advent of deep learning has had a significant impact on many areas in machine learning."[96] A fundamental characteristic of deep learning (DL) is its ability to autonomously discover compact low-dimensional representations and features of high-dimensional input, like text, audio, and images, using deep neural networks (DNNs).[97] DL also

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[87] Alarie (n68 above) 10.
[88] Sande MM '*Resource Management and Backhaul Routing in Millimeter-Wave Lab Networks Using Deep Learning Reinforcement Learning'* (PHD Dissertation University of Pretoria 2023) 66.
[89] Gerber M '*Automated Design of the Deep Neural Network Pipeline'* (Master of Science Dissertation University of Pretoria 2021) 5.
[90] Gerber (n89 above) 5.
[91] Richie DR and Duffy JD *'Artificial Intelligence in the Legal Field'* (2018) 1.
[92] Richie and Duffy (n91 above) 1.
[93] Sande (n88 above) 66.
[94] Sande (n88 above) 66.
[95] Sande (n88 above) 66.
[96] Sande (n88 above) 66
[97] Sande (n88 above) 66.

includes networks that use a hierarchical level of artificial neural networks to perform unsupervised learning from unstructured and unlabeled datasets.[98]

2.2.4 Natural Language Processing

Same as the machine learning, natural language processing is one of the particular areas of artificial intelligence applications.[99] Natural language processing looks at how words and phrases are used to create connections within and among written and spoken language.[100] Automated text analysis is made possible by natural language processing.[101] A keyword search employs a literal approach to find particular words or phrases.[102] However, natural language processing allows the person using it to find information that is likely relevant to what she searches for, even when the content does not contain words or phrases that are precisely included in her list of keywords.[103] Additionally, natural language processing is applicable to information retrieval, and in many industries, natural language processing techniques have largely taken the place of keyword searches.[104] Natural language processing technologies are used in search engines, speech-to-speech translation, and intelligent assistants like Siri to improve user experience.[105] Large volumes of presumably unstructured data appear to be processed by both machine learning and natural language processing.[106]

The way lawyers handle paperwork and contracts has also evolved as a result of natural language processing.[107] Numerous fledgling businesses focus on contract analysis and evaluation. The market software offered by the companies assists parties in crafting contractual language that steers clear of numerous drafting mistakes, including unclear terms and conditions and the deletion of important clauses.[108] Additionally, the software makes it easier to comprehend current contracts in the event of or before litigation.[109] Other businesses offer analytical software tools for

[98] Sande (n88 above) 66.
[99] Alarie (n68 above) 8.
[100] Alarie (n68 above) 8.
[101] Alarie (n68 above) 8.
[102] Alarie (n68 above) 8.
[103] Alarie (n68 above) 8-9.
[104] Alarie (n68 above) 8-9.
[105] Hirscheberg J and Manning CD *'Advances in Natural Language Processing'* (2015) 261.
[106] Alarie (n68 above) 8-9
[107] Alarie (n68 above) 10.
[108] Alarie (n68 above) 10.
[109] Alarie (n68 above) 10.

organising unstructured data that could be important in a current or upcoming legal dispute.[110] For example email is one of them. When a client files for bankruptcy, a firm employs natural language processing to find the published rulings that are most pertinent to the case.[111]

2.2.5 Algorithms

Currently, algorithms are comparable to the computer programs that enable artificial intelligence.[112] An algorithm was defined by an American court in re Gottschalk v. Benson as follows, a procedure that can be used to solve a specific type of mathematical problem.[113] Both the old and the new definitions are overly restrictive, even if the American court has embraced this term.[114] According to the Oxford English Dictionary, an algorithm is A procedure or set of rules to be subsequently followed, particularly by a computer, in calculations or other problem-solving operations.[115] This definition is more in line with what the Oxford Advanced Learner's Dictionary of Current English states an algorithm is. It is defined as follows A set of procedure that must be adhered to when addressing a specific problem.[116]

Since algorithms have been around for a while, they are not a completely new technology.[117] Algorithms are basic mathematical operations or human-written codes that are used to classify and sort dates in a variety of datasets based on predetermined criteria.[118] It's frequently referred to as Big Bata. This means that is a set of information that is too big or complex to handle, analyse, or use with traditional methods.[119] This could be textual, Images, or numerical, and it could be structured and unstructured or purpose-specific and tabular.[120] This consequently produces an atmosphere in which massive data is gathered and processed by algorithms.[121]

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[110] Alarie (n68 above) 10.
[111] Alarie (n68 above) 10.
[112] Barfield W and Barfield J *'An introduction to law and Algorithms'* in Barfield W (ed) The Cambridge handbook of the law of algorithms (2021) 4.
[113] Xaba (n8 above) 14.
[114] Barfield W and Barfield J (n48 above) 4.
[115] Oxford English Dictionary, *'Definition of algorithm'* https://en.oxforddictionaries.com/defifinition/algorithm.
[116] AS Hornby '*Oxford Advanced Learner's Dictionary of Current English'* (Oxford University Press 2015) 35.
[117] Xaba (n8 above) 14.
[118] Xaba (n8 above) 15.
[119] Hornby (n52 above) 133.
[120] Xaba (n8 above) 15.
[121] Xaba (n8 above) 15.

2.3 Transformative AI legal tools

Disruptive technologies are not the same as sustaining technologies.[122] Technologies that fundamentally transform how a company or a market sector operates are known as disruptive technologies.[123] Although technologies that maintain and improve a business's or market's operations are known as sustaining technologies.[124] The advent of information technology, including electronic databases, the internet, and email, revolutionised the nature and speed of legal communication and eliminated the need for legal services and processes to take place online rather than in the physical environment.[125] It was sustaining in its effect nonetheless, as it did not impact the essential characteristics of legal services or the profession of law.[126] However, machine intelligence is going to seriously disrupt the legal profession, just as it is doing in other sectors of the economy and society.[127] Numerous disruptive technologies are already being implemented in the legal industry and have a favorable impact on the provision of some legal services.[128] According to a 2017 poll of American law companies, over 36 percent of law firms with fifty and more and 90 percent of big firms use AI tools in their daily operations.[129] Most of the United Kingdom's 'magic circle' companies have lately started using one or more AI products, and they have high expectations for their financial investments.[130] Recently, big law firms in South Africa have also begun to invest in AI technologies to increase the efficiency of some important legal processes, like compliance, mergers and acquisitions, and private equity.[131]

2.4 Legal and policy challenges

The ability of machine intelligence to multitask is its greatest feature.[132] Furthermore, machine intelligence can be employed to carry out risky tasks that people are unable to do.[133] The fact that

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[122] Gravett (n71 above) 15.
[123] Gravett (n71 above) 15.
[124] Gravett (n71 above) 15.
[125] Gravett (n71 above) 15.
[126] Gravett (n71 above) 15.
[127] Gravett (n71 above) 15.
[128] McGinnis and Pearce *'The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services'* (2014) 82 Fordham L. Rev. 3041.
[129] Gravett (n71 above) 16.
[130] Susskind *'Tomorrow's Lawyers'* 184-185.
[131] Truter C 2018 *'Bowmans among the First in Africa's Legal Market to Invest in Artificial Intelligence'* https://www.bowmanslaw.com/press_releases/bowmansinvests-in-artificial-intelligence/ (accessed 4 March 2024).
[132] Tony S 'Understanding the Legal Risks Associated with Artificial Intelligence' (2020) October The SA Attorneys' Journal (De Rebus) https://www.derebus.org.za/wp-content/uploads/2020/09/DR_Journal_October_2020.pdf (accessed 12 May 2024).
[133] Tony (n68 above) 10.

parameters can be changed is the only distinction between people and machines.[134] The only factors used in machine intelligence computations of speed and duration is parameters.[135] While some systems employ data that cannot be connected to specific individuals, others use personal data, which is against the protection of data policy and could be legally risky.[136]

2.4.1 Privacy infringement

The public's anxiety over emerging AI is growing due to the numerous risks involved in having machines make decisions instead of people.[137] Section 14 of the Constitution, protects the right to privacy.[138] Furthermore, the right to privacy assured by the Constitution is acknowledged and put into practice by the Protection of Personal Information Act, 4 of 2013 (POPIA), which establishes necessary processes and procedures for the management and processing of personal data.[139] Large volumes of data must be accessible for artificial intelligence to function, yet ill-thought-out laws and regulations might restrict useful access without lowering the danger of AI activity.[140] In addition, privacy and ethical issues raised by artificial intelligence could undermine public confidence in new technologies if they are not carefully considered.[141]

Although machines are unable to learn unless they have access to an enormous amount of information from which to identify designed patterns, artificial intelligence depends on data availability.[142] This involves, for instance, processing and storing vast amounts of automated personal data, some of which may be highly perceptive.[143] Governments should therefore carefully consider whether they should adjust current data access policies to account for the advantages of AI.[144] Moreover, privacy protection is more crucial than ever in a time of growing

[134] Tony (n68 above) 10.
[135] Tony (n68 above) 10.
[136] Tony (n68 above) 10.
[137] Tony (n68 above) 10.
[138] Section 14 of the Constitution of Republic of South Africa, 1996.
[139] Section 2 of the Protection of Personal Information Act, 4 of 2013 (POPIA)
[140] Tony (n68 above) 10.
[141] Tony (n68 above) 10.
[142] Tony (n68 above) 10.
[143] Tony (n68 above) 10.
[144] Tony (n68 above) 10.

data collection and utilisation.[145] AI advancements benefit society in addition, but privacy must be protected by legislative frameworks without hindering innovation.[146]

2.4.2 Data Protection

Protecting people's right to control how their personal information is used is at the core of data protection.[147] In order to ensure that the use of personal data is transparent, controllers must be honest about it.[148] Privacy pertains to private information that an individual has decided to keep private from third parties.[149] Therefore, privacy can only be violated if someone discovers actual, personal information about an individual against that person's choice and will.[150] Information is frequently provided by people for one reason only, unaware that it may be utilised for other reasons as well.[151] Legal professionals may be able to give their clients more insightful legal representation regarding dispute resolution matters by using personal information to predict the outcome of litigation.[152]

Due to the limited processing of this data, it is necessary to gather personal information in a fair and legal manner. As a result, anybody processing information has to make sure that the right security measures have been taken to protect against information loss, damage, destruction, and unauthorised or illegal access or processing.[153] It's clear that using AI systems could lead to a data breach, which could be dangerous for reputation, security, and privacy.[154] Data protection is becoming more and more important for reasons beyond just running a business; legislation additionally highlights this necessity.[155]

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[145] Tony (n68 above) 10.
[146] Gordon JS 'AI and law: ethical, legal and socio-political implications' (2021) https://doi.org/10.1007/s00146-021-01194-0 (accessed 05 July 2024) 403.
[147] Tony (n68 above) 10.
[148] Tony (n68 above) 10.
[149] Tony (n68 above) 10.
[150] *Investigating Directorate: Serious Economic Offences and Others v Hyundai Motor Distributors (Pty) Ltd and Others: In re Hyundai Motor Distributors (Pty) Ltd and Others v Smit NO and Others* 2001 (1) SA 545 (CC) para 16.
[151] Tony (n68 above) 10.
[152] Tony (n68 above) 10.
[153] Campbell K 'The Fourth Industrial Revolution is upon us and South African industry must adapt' www.engineeringnews.co.za (accessed 04 July 2024).
[154] Campbell (n153 above).
[155] Gordon (n146 above) 403.

2.4.3 Biased AI tools and unfairness

It is important to keep in mind that artificial intelligence is not always impartial and objective. Humans have an impact on algorithm design since humans provide instructions, and the algorithmic decision-making system is intrinsically biased by the training data that is used.[156] Artificial intelligence design may overtly indicate an inclination for some values over others through its programming.[157] The online dispute resolution system on eBay provides an example: eBay has come under fire for openly adopting a "buyer is always right" stance, which is perceived as favoring customers over sellers.[158] In addition, programmers' prejudices may unintentionally introduce bias into AI systems, or, in the instance of machine learning algorithms, bias may deliberately be learned into the system from which the AI is learning.[159] Additionally, the study discovered that a large percentage of the criminal record data exhibits extreme prejudice towards Black, Indigenous, and People of Color (BIPOC) individuals.[160] These are precisely the places where such communities are found to have a history of recent and established police presence that is excessively predatory.[161] Therefore, it is clear that actions should be taken to prevent concerns like discrimination and inequality caused by AI systems.[162]

2.5 Conclusion

The content of this chapter has provided a foundational understanding of Artificial Intelligence (AI), its potential applications, and the associated risks. Additionally, it has examined the nature of AI and its interaction with humans, highlighting the transformative AI-driven tools currently employed to enhance legal practice. Research has demonstrated that AI has the potential to significantly transform the legal profession by improving efficiency and decision-making processes. Furthermore, this chapter has underscored the necessity of establishing a comprehensive legal and policy framework to regulate the use of AI in legal practice, ensuring ethical and responsible implementation.

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[156] Stankovic M et al *'Exploring Legal, Ethical and Policy Implications of Artificial Intelligence'* White Paper of the Global Forum on Law Justice and Development (2017).
[157] Gravett (n82 above) 14.
[158] Gravett (n82 above) 14.
[159] Gravett (n82 above) 14.
[160] Doyle C *'The feature is bug'* (2021) Inquest https://inquest.org/the-feature-is-the-bug/?__cf_chl_captcha_tk__=pmd_rS2j_tbu2nKRH8Yw2wJduiK9rjm9NYMuXAK10i9FT.8-1633162412-0-gqNtZGzNAtCjcnBszQbR.
[161] McGregor L et al '*International human rights law as a framework algorithmic accountability'* (2019) https://www.cambridge.org/core (accessed 04 July 2024).
[162] Gordon (n146 above) 403.

Chapter Three: The areas of civil litigation practice disrupted by Artificial Intelligence

3.1 Introduction

The primary areas of civil litigation that artificial intelligence will change are examined in this chapter. The chapter would examine the nature of artificial intelligence (AI) and its potential significance in a number of civil litigation practice areas, such as online courts, online dispute resolution, electronic discovery and document review, legal research, and predictive analytics. The impact of disruptive technological tools on legal practice will be covered in this chapter. Additionally, this will bring changes to the civil justice system and how certain legal services are delivered. The focus of this study is on the support that AI-assisted technologies may provide to attorneys and law firms handling civil litigation. Furthermore, there are challenges and shortcomings that artificial intelligence could pose to attorneys practicing civil litigation.

3.2 Role of Artificial Intelligence on Online Dispute Resolution (ODR)

The development of digital technologies has significantly changed numerous aspects of human existence in recent years, and dispute resolution is no exception. The traditional limitations of conflict resolution have been surpassed by online dispute resolution (ODR).[163] This approach, which is centered on digital platforms, seeks to offer a flexible and effective way to resolve conflicts, frequently getting around the conventional constraints of space and time.[164] ODR not only satisfies the preferences of a society that is becoming more and more digitalised, but it also speeds up access to justice.[165] Through a variety of resolution options offered by ODR, parties concerned can choose highly qualified arbitrators.[166] Compared to the frequently overworked traditional legal system, this approach is clearly more agile because decisions are made quickly.[167] A new range of opportunities arises from the interaction between ODR and Artificial Intelligence (AI).[168] By analysing data, finding patterns, and then delivering insights that support unbiased and well-informed judgments, Artificial Intelligence (AI) improves the process through

[163] T J Candeias '*Artificial Intelligence's Role in Enhancing Conflict Resolution within the Online Dispute Resolution (ODR) System'* (2023) https://hal.science/hal-04194478 accessed 13 July 2024.
[164] Candeias (n164 above) https://hal.science/hal-04194478.
[165] Candeias (n163 above) https://hal.science/hal-04194478.
[166] Candeias (n163 above) https://hal.science/hal-04194478.
[167] Candeias (n163 above) https://hal.science/hal-04194478.
[168] Candeias (n163 above) https://hal.science/hal-04194478.

algorithms and machine learning.[169] The use of AI can reduce the possibility of prejudice and human error in decisions while also speeding up the resolution of disputes.[170]

ODR demonstrates an innovative response to the needs of a society growing more networked by the day.[171] ODR emphasizes simpler and more effective ways to resolve disputes while sharing and expanding upon the core principles of Alternative Dispute Resolution (ADR).[172] Online Dispute Resolution (ODR) is a digital platform that is available to the public that allows disputing parties to get together in order to successfully resolves issues.[173] This involves using digital tools for online dispute resolution, including negotiation, mediation, arbitration, and case management, primarily conducted online.[174] Additionally, this refers to the use of Artificial Intelligence (AI) in the development of an online dispute resolution system to support and settle the disputes of litigants.[175] A large number of litigants are burdened by the lengthy and expensive litigation process, which is why ODR is necessary.[176] Courts have recognised that, because litigation is expensive and often needless, disputing parties should be encouraged to settle their disputes out of court rather than rushing into it. In addition, there are cases where a litigant brings a minor complaint and the costs of the litigation outweigh the remedy requested.[177] For instance, the researcher has contended that small-value claims are the main focus of online disputes between disputing parties, yet these disputes occur frequently, necessitating the need for a special dispute resolution procedure.[178]

There are three primary forms of new technology that have emerged as a result of AI and technology:[179] Firstly is the replacement technology, which aim to replace human functions; secondly is the supportive technologies, which try to help and counsel those involved in the justice system; and thirdly is the disruptive technologies, which concentrate on how technology may alter

[169] Candeias (n163 above) https://hal.science/hal-04194478.
[170] Candeias (n163 above) https://hal.science/hal-04194478.
[171] E Katsh and C Rule *'What We Know and Need to Know about Online Dispute Resolution' (2016 South Caroline Law Review)*' https://scholarcommons.sc.edu/sclr/vol67/iss2/10 327.
[172] Candeias (n163 above) https://hal.science/hal-04194478.
[173] Candeias (n163 above) https://hal.science/hal-04194478.
[174] D Carmeiro et al *'Online Dispute Resolution: an Artificial Intelligence Perspective'* (2014) Artif Intell Rev 41:211 -240 : http://dx.doi.org/10.1007/s10462-011-9305-z .
[175] Katsh and Rule (n171 above) 331-332.
[176] Katsh and Rule (n171 above) 331-332.
[177] Katsh and Rule (n171 above) 331-332.
[178] Katsh and Rule (n171 above) 331-332.
[179] S Reddy '*Implementing A South African E-Dispute Resolution System for Consumer Disputes*' (2020) 383.

current roles. AI can improve legal decision-making by analysing and managing information, supplementing human capabilities with computer-based methods.[180] There are two main categories of AI technology, each with its own subcategories. The first is knowledge-based systems, which encompass rule-based systems and case-based reasoning.[181] The second category is machine learning, which uses adaptable programming that learns from new data and adjusts to changing circumstances.[182] This differs from knowledge-based systems, which are built on computers programmed to use pre-established rules and expert knowledge to reach conclusions.[183]

The study mentioned earlier shows the internet's potential for online dispute resolution (ODR).[184] While AI can support ODR with expert systems and rule-based algorithms, machine learning allows for the creation of tools that identify patterns in data and develop algorithms with high predictive accuracy.[1] This is due to AI's increasing sophistication in problem-solving.[185] Combining AI and ODR could greatly benefit the South African judicial system by creating an online platform accessible to litigants and the public.[186] Data analysis and machine learning have demonstrated their ability to effectively manage disputes.[187] This approach reduces risk, responsibility, cost, and unfairness, while also enabling the resolution of more complex disputes compared to traditional in-person methods.[188] Therefore, ODR and AI can be integrated to create an online dispute resolution platform. However, human intervention will still be necessary for complex cases that require nuanced interpretation of legal principles or exceed the algorithm's capabilities.[189]

As instances of successful stories that ODR has supplied, have a look at E-Bay/PayPal and Cybersettle. For instance, eBay and PayPal use a tiered ODR method that requires that parties' attempt, initially through the use of assisted negotiating tools, to settle their disputes voluntarily; if they are unable to do so, the claim moves on to adjudication.[190] PayPal ensures that the final

[180] Candeias (n163 above) https://hal.science/hal-04194478.
[181] Reddy (n179 above) 383.
[182] Reddy (n179 above) 383.
[183] Reddy (n179 above) 383.
[184] Reddy (n179 above) 384.
[185] Reddy (n179 above) 384.
[186] Reddy (n179 above) 384.
[187] Reddy (n179 above) 384.
[188] Reddy (n179 above) 384.
[189] Candeias (n163 above) https://hal.science/hal-04194478.
[190] P Cortes *'What Should the Ideal ODR system for e-commerce consumers look like? The Hidden World of Consumer ADR: Redress and Behaviour'* (2011 CRLR Oxford) 1.

decision is enforced by freezing the money involved in the dispute transaction.[191] Every year, it settles more than 60 million disputes.[192] While CyberSettle resolves insurance and commercial problems through blind-bidding negotiation.[193] Parties submit confidential proposals that will only be revealed if both offers meet a predetermined threshold or monetary amount.[194] Since 1998, CyberSettle has conducted business online, resolving more than 200,000 disputes totaling more than USD 1.6 billion.[195]

3.3 Artificial Intelligence and Online court

The research has shown in earlier chapters that the development of digital technology has had a profound impact on numerous aspects of human existence in recent years, and the traditional court is no exception. Prior to the COVID-19 pandemic, the South African judiciary had already begun modernising its operations by implementing a digital system for high courts called Court Online, which allows for electronic filing of court documents.[196] The process of digitalisation was expedited by the COVID-19 pandemic.[197] Consequently, on March 15, 2020, the COVID-19 outbreak caused South Africa to be proclaimed to be in a national state of disaster.[198] The Office of the Chief Justice issued a directive on June 27, 2022, announcing that all superior court new matters must be started on Court Online as of July 18, 2022.[199] Court Online is a digital case management and evidence management platform that allows lawyers and litigants to work together on end-to-end e-filing for high court matters.[200]

Electronically signed documents were traditionally not allowed in South African courts. Nonetheless, the South African high courts now accept electronically signed court documents as a result the launch of Court Online. Electronic signatures are governed by the Electronic

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[191] Cortes (n190 above) 1.
[192] Cortes (n190 above) 1.
[193] Cortes (n190 above) 1.
[194] Cortes (n190 above) 1.
[195] Cortes (n190 above) 1.
[196] Kayana S and Ferns C '*CMP Expert Guide to Digital Litigation: The rapid digitalisation of the legal landscape has transformed litigation across the globe*' 4.
[197] Kayana and Ferns (n196 above) 3.
[198] Kayana and Ferns (n196 above) 3.
[199] '*The Office of the Acting Judge President High Court of South Africa, Gauteng Provincial Division, Pretoria Divertive 1 of 2022: Piloting of the Court Online System in Gauteng*' https://www.courtonline.judiciary.org.za.
[200] *'Divertive 1 of 2022: Piloting of the Court Online System in Gauteng'* https://www.courtonline.judiciary.org.za.

Communications and Transactions Act 25 of 2002.[201] Section 13(3) of the ECTA provides that an electronic signature serves as a means of verifying an individual's identity and confirming their consent to information.[202] Therefore, as long as the signature accurately identifies the signer and indicates that the sender approves of the documents, attorneys and/or litigants may utilise electronic signatures to sign court documents.[203] The use of technology in the legal field is one example of how the field is always evolving.[204] By implementing various technological measures and digital tools that would gradually advance the South African litigation system, which the South African judiciary has attempted to adjust to the use of technology in litigation.[205]

Court Online has become an essential digital tool within the South African legal system, offering a streamlined e-filing system that enables both litigants and attorneys to efficiently submit pleadings and other documents to the court.[206] This end-to-end system facilitates the immediate processing of electronically submitted materials by court officials, thereby increasing the efficiency of the judicial process. As a result, courts are better equipped to handle a higher volume of cases, minimizing delays and enhancing accessibility for all parties involved.[207] As outlined in the Practice Directive issued by the Office of the Acting Judge President in 2022, all High Court matters must now be filed electronically rather than in person, effective from July 18, 2022.[208] This directive mandates that cases initially filed in person must be transitioned to the Court Online system for all subsequent proceedings. Despite the mandatory e-filing requirement, virtual hearings remain optional, offering flexibility in how proceedings are conducted.[209] This development signifies a significant shift towards a more digital and efficient legal system.

The use of technology in the legal sector is not limited to e-filing. For instance, in the case of United States v. Henderson (2023),[210] the court explored the use of artificial intelligence (AI) in determining criminal sentences. Although the court permitted the use of AI for this purpose, it

[201] Electronic Communications and Transactions Act 25 of 2002.
[202] Section 13(3) of the Electronic Communications and Transactions Act of 25 of 2002.
[203] Kayana and Ferns (n196 above) 3.
[204] Kayana and Ferns (n196 above) 3.
[205] Kayana and Ferns (n196 above) 3.
[206] *'Divertive 1 of 2022: Piloting of the Court Online System in Gauteng'* https://www.courtonline.judiciary.org.za.
[207] *Divertive 1 of 2022: Piloting of the Court Online System in Gauteng'* https://www.courtonline.judiciary.org.za.
[208] Rule C of *the 'Divertive 1 of 2022: Piloting of the Court Online System in Gauteng'.*
[209] Rule C of *the 'Divertive 1 of 2022: Piloting of the Court Online System in Gauteng'.*
[210] United States v. Henderson, No. 22-2613 (3d Cir. 2023).

emphasized the necessity of human oversight to avoid potential biases in the algorithms and ensure fairness in sentencing.[211] This case underscores the growing role of AI in the justice system, while highlighting the critical need for proper regulation and oversight to safeguard the principles of justice and equity.[212] In addition to advancements in digital filing systems, the Practice Directive of the Office of the Chief Justice in 2022 also empowers judges to decide whether a matter will be heard in person or virtually.[213] The directive recognises the value of online videoconferencing and video links in conducting court hearings, but it grants judges the discretion to determine the most appropriate format for each case.[214] Furthermore, the directive introduces the concept of hybrid court proceedings, allowing judges to utilise both in-person and virtual sessions based on the specific needs of a case.[215] This flexibility enhances the court's ability to manage cases efficiently while accommodating the preferences of litigants and legal practitioners.

Moreover, the Law Society of South Africa (LSSA) has recognised the growing importance of technology in legal practice.[216] In 2015, the LSSA released guidelines to assist attorneys and litigants in navigating the use of cloud computing, which has become integral to managing legal documentation and case files.[217] The guidelines emphasize the importance of attorneys being proficient in digital data storage practices, remaining up to date with legal technological developments, and exercising caution when utilising external platforms to store or upload client information.[218] These measures ensure that legal professionals are not only adapting to technological advancements but are also upholding high standards of data security and client confidentiality.

South Africa is not the only nation that uses online courts, despite the positive experiences with their integration into the South African legal system. Both Canada and the Netherlands have seen innovative undertakings in this field.[219] Online courts were also implemented in Wales and

[211] United States v. Henderson (n211 above) 22-2613.
[212] United States v. Henderson (n211 above) 22-2613.
[213] Kayana and Ferns (n196 above) 4.
[214] Kayana and Ferns (n196 above) 4.
[215] Kayana and Ferns (n196 above) 4.
[216] Kayana and Ferns (n196 above) 4.
[217] Kayana and Ferns (n196 above) 5.
[218] Kayana and Ferns (n196 above) 5.
[219] Susskind R *'Tomorrow's Lawyers'* (Oxford University Press: Oxford 2017) 111.

England as part of the government reform initiative.[220] This was inspired by the work of the Online Dispute Resolution Advisory Group of the Civil Justice Council.[221] Artificial Intelligence (AI) offers a number of potential solutions in the legal fraternity. Artificial intelligence (AI) language interpreters, for example, could be employed in court to reduce language barriers and promote inclusivity in the judicial system.[222] These resources can enhance the accuracy of court proceedings, translate legalese, and help non-English speakers communicate with legal professionals.[223] To stop growing marginalisation and protect privacy, this calls for tackling concerns with technological literacy, guaranteeing digital access, and putting strong training and ethical frameworks in place.[224]

Equitable justice is frequently hampered by the complexity and high expense of judicial systems.[225] Artificial intelligence (AI)-driven legal chatbots and virtual assistants, on the other hand, give hope by making legal material easily available, helping with repetitive activities like filling out forms, and delivering tailored advice.[226] These resources enable users to comprehend their legal choices. AI-driven predictive analytics with deep learning neural networks can improve the efficiency and transparency of the legal system.[227] By examining previous cases and data, maximizing resource use, and influencing legal legislation, these tools project possible outcomes.[228] There is no doubt that these technological developments have the potential to improve the efficiency and accessibility of justice. AI can be applied for the public benefit, to quote the words from the American Bar Association. AI has the capacity to scale up measures to close the justice disparity.[229]

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[220] Susskind (n219 above) 111.
[221] Susskind (n219 above) 112.
[222] Mpedi LG 'Opinion: Artificial Intelligence can revolutionise access to justice for all in South Africa' (2024) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/ accessed 20 September 2024.
[223] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[224] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[225] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[226] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[227] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[228] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.
[229] Mpedi (n222 above) https://news.uj.ac.za/news/opinion-artificial-intelligence-can-revolutionise-access-to-justice-for-all-in-sa/.

3.4 The influence of Artificial Intelligence on Electronic discovery and document review

The process of discovery in civil proceedings in South Africa is governed by various legal frameworks. These include the *Rules Regulating the Conduct of Proceedings of the Several Provincial and Local Divisions of the High Courts of South Africa*, which operate with reference to the *Supreme Court Act*;[230] the *Rules for the Conduct of Proceedings in the Labour Court*, which align with the *Labour Relations Act*;[231] and the *Rules Regulating the Conduct of Proceedings in the Magistrates' Court*, which are guided by the *Magistrates' Court Act*.[232] In line with these regulatory frameworks, parties involved in litigation may request the discovery and production of evidence under both the *Uniform Rules of Court*[233] and the *Magistrates' Court Rules*.[234]

In the case of *Independent Newspapers (Pty) Ltd v Minister for Intelligence Services: In re Masethla v President of the Republic of South Africa*,[235] the court reaffirmed that, as a general principle, courts are inclined to grant plaintiffs' requests for access to records or other information necessary to establish or defend a legally threatened right or to advance a cause of action. This approach reflects the judiciary's recognition of a plaintiff's fundamental right to present a full and fair argument throughout the legal process.

While the term "document" is commonly understood, it does not have a precise and universally accepted definition within common law. In *R v Daye*,[236] the court determined that any printed or written material that can be read qualifies as a document, irrespective of the medium on which it is written. However, legal definitions of "document" vary across different statutes. For instance, Section 33 of the *Civil Procedure Evidence Act* defines a document as including books, maps, plans, drawings, and photographs.[237] Conversely, Section 221 of the *Criminal Procedure Act,*[238] broadens this definition to encompass any device used for recording or storing information.

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[230] Supreme Court Act 59 of 1959.
[231] Rule 6(9) of the *Labour Court Rules* (Rules for the Conduct of Proceedings in the Labour Court).
[232] Magistrates Court Act 32 of 1944.
[233] Rule 35(1) of the *Uniform Rule of Court.*
[234] Rule 23(1) of the *Magistrates Court Rules*.
[235] *Independent Newspapers (Pty) Ltd v Minister for Intelligence Services: In re Masethla v President of the Republic of South Africa* [2008] ZACC 6 para 25.
[236] *R v Daye* (1908) 2 KB 333 para 340. Additionally, read the following sources; T Correia '*Legal Admissibility of Documentary Evidence in Civil and Criminal Proceedings'* the *'South African Law Reform Commission on the review of the Law of Evidence'* (2015) ISBN NR 978-0-621-42894-0 32; and PJ Schwikkard and SE Van der Merwe *'Principles of Evidence'* (Juta South Africa 2015) 431.
[237] Civil Procedure Evidence Act 25 of 1965.
[238] Criminal Procedure Act 51 of 1977.

To adapt to technological advancements, the *Electronic Communications and Transactions Act* introduced the concept of a "data message" as a new category of evidence.[239] This definition extends to data generated, sent, received, or stored electronically, including voice recordings used in automated transactions and electronically stored records.[240] This evolution in legal definitions ensures that modern forms of communication and data storage are adequately accounted for within the judicial process.[241]

The term "document" had become outdated in the modern digital age, particularly within the legal field. To address this, the Rules Board for Courts of Law of South Africa[242] proposed amending the definition of "document" within the new E-rules to encompass electronic information. Research suggests this amendment effectively covers both definitions of "data message" found in the Cybercrime Act and the Electronic Communication and Transaction Act, acknowledging the relevance of both types in the South African context.[243] As an interim solution, data messages and electronic information should be explicitly included as discoverable items under Rule 23 of the Magistrates' Court Rules, Rule 6 of the Labour Court Rules, and Rule 35 of the Uniform Rules of the Court.[244]

The contents of a document may be fixed and provide a clear indication or interpretation of the facts in issue, making it valuable for probative value.[245] Nonetheless, there is a chance that documents may be forged, thus it is essential that the writer confirms the originality and accuracy of the information.[246] The prosecutor must demonstrate a document's originality and legitimacy before it can be admitted into evidence, which is the primary prerequisite for using it in court.[247] The Electronic Communications and Transactions Act (ECTA)[248], the CyberCrime Act[249], and the

[239] Electronic Communications and Transactions Act 25 of 2002.
[240] *The proposed new e-rules and amendments to the Uniform and Magistrates' Courts rules for the electronic civil justice system'* available at https://www.justice.gov.za/rules_board/comment.html.
[241] *The proposed new e-rules and amendments to the Uniform and Magistrates' Courts rules for the electronic civil justice system'* available at https://www.justice.gov.za/rules_board/comment.html.
[242] *The proposed new e-rules and amendments to the Uniform and Magistrates' Courts rules for the electronic civil justice system'* available at https://www.justice.gov.za/rules_board/comment.html.
[243] Hart E.R '*Discovery of electronic information in legal proceedings in South Africa with specific reference to Rule 23 of the Magistrates' Court Rules and Rule 35 of the Uniform Rules of Court*' (LLM Dissertation University of Pretoria 2022) 137.
[244] Hart (n241 above) 138.
[245] '*National Prosecuting Authority (NPA): Aspirant Prosecutor Programme Guideline'* (2023) 110.
[246] '*National Prosecuting Authority (NPA): Aspirant Prosecutor Programme Guideline'* (2023) 110.
[247] '*National Prosecuting Authority (NPA): Aspirant Prosecutor Programme Guideline'* (2023) 110.
[248] ECTA 25 of 2002.
[249] CyberCrime Act 19 of 2020.

Criminal Procedure Act[250] are amongst few of the statutes in South Africa that include provisions for the handling of documentary evidence in addition to the law of evidence standard.

The widespread use of digital devices in South Africa has resulted in a new form of evidence becoming available to the legal community: electronically generated and stored information. This is because more and more information is being created, shared, and used for business transactions and agreements in a digital format.[251] In the case of Trustees for the Time Being of the Delsheray Trust and Others v. ABSA Bank Limited, the court found that:[252] Advances in technology had revolutionised the gathering and sharing of information, particularly legal information. Both globally and in South Africa, these advancements resulted in substantial changes to the legislation pertaining to computer-generated evidence.

Lawyers are progressively switching from paper-based litigation to electronic litigation.[253] For e-discovery and other record-intensive investigations, legal professionals worldwide are organising, analysing, and searching massive, diverse data sets utilising software with specially designed algorithms.[254] Though there are many who argue that the most accurate type of evaluation is manual human review.[255] The court in *S v Fuhri* (1994),[256] allowed machine-generated photographs, including their embedded digital time stamps, as evidence. In Re Ndlovu v Minister of Correctional Services and Another in 2006,[257] the court held that computer-generated records of a prisoner's activities were presented as evidence. Although the judge recognised this information as hearsay because it was recorded by individuals do not present to testify, he allowed it based on a legal exception for certain types of hearsay.

[250] Criminal Procedure Act 51 of 1977.
[251] Swales L 'An Analysis of the Regulatory Environment Governing Hearsay Electronic Evidence in South Africa: Suggestions for Reform – Part One' PER / PELJ 2018(21) 11.
[252] *Trustees for the time Being of the Delsheray Trust and Others v ABSA Bank Limited* (A504/13) [2014] ZAWCHC 152; [2014] 4 All SA 748 (WCC) (9 October 2014) para 18.
[253] Hart (n241 above) 126.
[254] JO McGinnis and RG Pearce *'The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services'* (2014) 3047.
[255] WH Gravett '*Is the Dawn of the Robot Lawyer upon us? The Fourth Industrial Revolution and the Future of Lawyers'* (2020) PER/PELJ 17.
[256] *S v Fuhri* 1994 (2) SACR 829 (A).
[257] *Ndlovu v Minister of Correctional Services and Another* [2006] 4 All SA 165 (W) para 174e – 175c.

These researchers discovered that, instead, "technology-assisted review can (and does) yield more accurate results than exhaustive manual review, with much lower effort."[258] A 2016 UK High Court decision broke new ground by approving predictive coding, a machine learning technique, for electronic disclosure in legal cases, signaling a growing acceptance of AI in legal practices..[259] Furthermore, there is a perfect fit between the nature of discovery and computer capabilities.[260] Millions of pages could be found in this amount of discovery.[261] Traditional discovery methods were notoriously inefficient, requiring a significant investment of time and resources as teams of lawyers painstakingly sifted through mountains of physical documents to identify relevant information.[262] The majority of legal documents now originate in electronic format; therefore, with e-discovery, the discovery process may now be carried out even more accurately and in a fraction of the time, money, and effort required for attorneys.[263]

3.5 Impact of Artificial Intelligence on Legal research

As the previous chapters have indicated, artificial intelligence has transformed numerous aspects of human life in the last several years, and legal research is no different. Traditional legal research is a painstakingly slow and laborious process.[264] Despite the challenges, comprehensive and efficient legal research has always been a cornerstone of the legal profession, requiring practitioners to diligently examine legal texts and precedents.[265] Not only will machines intelligence replace lawyers in this type of job, but they will do it more quickly as well. For example, when it comes to performing intricate computations, computers have gradually supplanted humans. Many years ago, those who performed these mathematical calculations were referred to as "computers." Similar to how computers have taken over the laborious task of complex calculations, AI is set to transform legal research by automating the process of finding information, freeing up lawyers for other tasks.[266]

The origins of computerised legal research can be traced back to the mid-1960s, when the Ohio State Bar Association pioneered the development of an electronic system designed to streamline

[258] Gravett (n253 above) 17.
[259] Gravett (n253 above) 17.
[260] Gravett (n253 above) 17.
[261] Gravett (n253 above) 18.
[262] Gravett (n253 above) 18.
[263] Gravett (n253 above) 18.
[264] McGinnis and Pearce (n252 above) 3048.
[265] McGinnis and Pearce (n232 above) 3048.
[266] McGinnis and Pearce (n252 above) 3048.

the process of sorting through legal opinions.[267] The public launch of the Lexis legal search system in 1974 was made possible by the technology that served as its basis. Soon after, Westlaw was made available, but its lack of full text legal opinion searching restricted its effectiveness.[268] Simultaneously, the Lexis system was compromised by an inadequate database of case law.[269] These issues have mostly been resolved, and Westlaw and Lexis are now standard resources for legal research.[270]

Systems that respond to legal queries in an ostensibly intelligent way are about to upend the practice of law. ROSS Intelligence, marketed as the first AI lawyer, has become a prime example of how automation is revolutionising the legal tech industry.[271] ROSS is an IBM Watson-powered virtual legal assistant that uses natural language processing to comprehend legal issues and sort through secondary sources, case law, and legislation to provide a response based on solid evidence.[272] It is said to be able to read and comprehend one million pages every minute.[273] It continually maintains an eye on the law and makes use of machine learning to enhance its output, which leads to faster and more accurate outcomes overall.[274] A Miami insolvency law company partner named Luis Salazar put ROSS to the test on himself. A lawyer struggled to find a relevant precedent, spending ten hours searching online databases before finally finding a case with nearly identical facts; in contrast, ROSS was able to quickly pinpoint the same crucial case.[275]

3.6 Impact of Artificial Intelligence on Predictive analytics

A relatively new field called "predictive analytics" uses data analysis and data integration to generate forecasts. Processing power makes it possible to gather and arrange large amounts of data.[276] The data can then be examined for patterns. Analysis of the patterns' regularities can be aided by machine learning.[277] These models allow known data to be used to forecast future events

[267] McGinnis and Pearce (n252 above) 3048.
[268] McGinnis and Pearce (n252 above) 3048.
[269] McGinnis and Pearce (n252 above) 3048.
[270] McGinnis and Pearce (n252 above) 3048.
[271] *'ROSS Intelligence: Legal research powered by Artificial Intelligence'* (2023) https://www.rossintelligence.com/ accessed 15 September 2024.
[272] Gravett (n253 above) 23.
[273] Gravett (n253 above) 23.
[274] *'ROSS Intelligence: Legal research powered by Artificial Intelligence'* (2023) https://www.rossintelligence.com/ accessed 15 September 2024.
[275] Gravett (n253 above) 23.
[276] McGinnis and Pearce (n252 above) 3052.
[277] McGinnis and Pearce (n252 above) 3052.

in scenarios that have not yet happened.[278] If the missing information relates to future occurrences, such as the verdict in a court case, it can be unknown and even unknowable. The corporate world is awash in the popularity of predictive analytics. One of the most significant developments of the past ten years is the use of big data for aiding decisions.[279] Universities increasingly offer data analytics courses and even degrees as a result of its intense growth.[280]

Law does, in fact, lend itself well to machine data mining, the basis of this new predictive science, thanks to its vast databases of information from case law, briefs, and other documents.[281] Precedents, case findings, and fact patterns are examples of legal data. One type of legal analytics, for example, would forecast a case's outcome based on fact patterns and precedent, giving attorneys more tools to determine how likely a lawsuit will be.[282] Lawyers, of course, make implicit decisions regarding the likelihood of litigation when they counsel clients to file a case, reach a settlement, or proceed to trial.[283] However, their advice is confined to their direct or indirect legal experience and is founded on their intuitions.[284] Predictive analytics has the benefit of offering a way to acquire a large quantity of data and methodically analyse it to determine the case's estimated conclusion.

Interpreting and applying the law to particular situations is a step in the legal decision-making process. Legal decisions have traditionally been made by human judges and legal practitioneres using their interpretations of statutes and case law. Artificial intelligence (AI), in particular machine learning, offers the ability to improve legal decision-making by offering insights and forecasts derived from vast volumes of legal data.[285] Decision support systems and predictive analytics software are two examples of AI techniques used in legal decision-making.[286] Lex Machina, for example, is an AI-powered decision assistance tool that analyses legal data and offers machine learning insights into trends and patterns.[287] Furthermore, political scientists developed a

[278] McGinnis and Pearce (n252 above) 3052.
[279] McGinnis and Pearce (n252 above) 3052.
[280] McGinnis and Pearce (n252 above) 3052.
[281] McGinnis and Pearce (n252 above) 3052-3053.
[282] McGinnis and Pearce (n252 above) 3052-3053.
[283] McGinnis and Pearce (n252 above) 3052-3053.
[284] McGinnis and Pearce (n252 above) 3052-3053.
[285] MS Kabir and MN Alam '*The Role of AI technology for Legal Research and Decision Making*' (2023) 1088.
[286] Kabir and Alam (n283 above) 1088.
[287] *'Lex Machina: Legal analytics and data driven insights'* (2023) https://lexmachina.com/. accessed 19 September 2024.

decision-making model for the US Supreme Court based on earlier rulings, which was able to forecast future events more precisely than a group of Supreme Court specialists.[288] In re *Illinois v. Williams (2020)* the court ruled that the use of this technology without a warrant violated the Illinois Biometric Information Privacy Act.[289] This case demonstrates that existing laws may need to be reinterpreted or updated to address the novel challenges posed by AI.[290]

Casetext provides a useful tool called CARA, which helps legal practitioners identify previously utilised legal opinions to anticipate the arguments of opposing counsel.[291] Legal practitioners can also determine which instances have received unfavorable attention or have been marked as suspect.[292] Prominent law firms like DLA Piper and Ogletree Deakins have come to know Casetext and have even become clients. Kira Systems was founded by former mergers and acquisitions (M&A) lawyer Noah Waisberg and provides software for accurate due diligence contract assessments.[293] It uses sophisticated algorithms to find, select, and retrieve pertinent content for analysis.[294] Colleagues can quickly access the information that has been extracted and compare it to the original source.[295] According to Kira Systems, first-time users can speed up the procedure by up to 40 percent, and experienced users can speed it up by up to 90 percent.[296]

3.7 Conclusion

Ultimately, this chapter has examined how artificial intelligence impacts multiple aspects of civil litigation, including electronic discovery and document review, online courts, legal research, online dispute resolution, and predictive analytics. The aforementioned areas of civil litigation may become more accurate and efficient with the application of AI, especially machine intelligence. Additionally, this chapter looked at the various AI technical applications that simplify civil litigation and legal practice and provided successful examples. AI technological tools will probably have a greater influence on some aspects of civil litigation and legal practice as it develops, thus, it will

[288] DM. Katz, MJ Bommarito II, and J Blackman, '*Predicting the Behavior of the Supreme Court of the United States: A General Approach'* (2017).
[289] Rosenbach v. Six Flags Entertainment Corp., 2019 IL 123186 (Ill. 2019).
[290] Rosenbach v. Six Flags Entertainment Corp., 2019 IL 123186 (Ill. 2019).
[291] Kabir and Alam (n283 above) 1089.
[292] Kabir and Alam (n283 above) 1089.
[293] Kabir and Alam (n283 above) 1089.
[294] Kabir and Alam (n283 above) 1089.
[295] Kabir and Alam (n283 above) 1089.
[296] Kabir and Alam (n283 above) 1089.

be important to closely monitor and regulate it use to make sure that the interest of justice is served.

Chapter four: Comparative analysis on the role of artificial intelligence in the legal practice in other jurisdictions

4.1 Introduction

This chapter will focus on the comparative analysis of the role of AI in civil litigation with other jurisdictions outside South Africa, particularly the Republic of China and the United States of America. This chapter will focus on the AI progress of the two countries mentioned above, particularly in the practice of law. This part of the study will look at a comprehensive overview of AI regulations in the countries mentioned above. This part of the study will ascertain the policies governing AI in the two countries stated above as well as the important factors to be taken into account while creating AI laws. Analysing AI advancements in China and the United States is important, as both countries play pivotal roles in shaping the future of this influential technology in the judicial system. China's centralised approach focuses on large-scale implementation, supported by extensive data resources and government investments, while the U.S. adopts a decentralised strategy driven by private-sector creativity and cutting-edge research. These differing methodologies highlight variations in governance, ethical frameworks, and legal system, impacting the global standards and direction of AI development. Analysing their rivalry and potential cooperation offers valuable perspectives on how AI may progress within distinct political, cultural, and economic systems.

4.2 Comparative study on development of Artificial Intelligence in China and United States of America

The United States and China are two nations that have successfully integrated artificial intelligence into their legal systems.[297] China has implemented some of the first legally enforceable national policies on artificial intelligence (AI) in recent years. These rules target generative Artificial Intelligence (AI) systems, synthetically produced images and videos, and recommendation algorithms used to distribute information.[298] The regulations establish new guidelines for the development and application of algorithms as well as the data that AI developers must make to the public and government.[299] In the coming years, China is expected to release a complete national AI law, which might be a significant step for global AI governance on par with the European Union's upcoming AI Act.[300] These steps are creating the intellectual and

[297] Sitepu RI and Hasnda HA '*Analysis of the Implementation of E-Litigation with Artificial Intelligence Approach in Procedural Justice and Access to Justice in Pre-Trial Proceedings'* (2024) 48.
[298] Sheehan M '*China's AI Regulations and How They Get Made'* 108.
[299] Sheehan (n296 above) 108.
[300] Sheehan (n296 above) 109.

administrative framework for this legislation.[301] All of these actions together are transforming China into a testing ground for potentially the most influential technology of our time.

The threat of Chinese AI governance is used by other United States policy actors to further their objectives.[302] Although these perspectives have some basis in reality, they also obscure the rules themselves.[303] It matters what particular conditions and limitations they place on Chinese AI products. They will change the way technology is developed and used in the nation, and their impact will extend beyond its boundaries.[304] They will spread over the world as the standard configuration for exports of Chinese technology.[305] They will have an impact on everything from the safety features of driverless cars in Europe to the content limitations on language models in Indonesia.[306] Additionally, officials in the U.S. and other nations can learn from China's legislation despite the country's radically different political structure.[307]

Technical performance standards, model auditing procedures, and disclosure requirements are some of the new bureaucratic and technical instruments brought about by Chinese rules.[308] Depending on the nation, these instruments can be used for anything from democratic monitoring of automated decision-making to totalitarian speech restrictions.[309] Some artificial intelligence (AI) systems have been developed to predict court case outcomes in the United States, though this is still up for debate.[310] Currently, there is a machine learning application that can reasonably anticipate the results of cases heard by the United States Supreme Court (SCOTUS).[311] This tool makes predictions based on case data, political preferences, and the voting patterns of certain judges.[312] Furthermore, artificial intelligence (AI) technologies that use machine learning and natural language processing may predict rulings from the European Court of Human Rights

[301] Sheehan (n296 above) 109.
[302] Sheehan (n296 above) 109.
[303] Sheehan (n296 above) 109.
[304]Agbebi M '*China's Digital Silk Road and Africa's Technological Future'* https://www.cfr.org/sites/default/files/pdf/Chinas%20Digital%20Silk%20Road%20and%20Africas%20Technological%20Future_FINAL.pdf accessed 4 December 2024.
[305] Kostka G, Zhang X and Shin K '*Information, Technology and Digitalization in China's environmental Governance'* (2019) https://www.tandfonline.com/doi/full/10.1080/09640568.2019.1681386 1-13.
[306] Sheehan (n296 above 110.
[307] Creemers R *'The Chinese Conception of Cybersecurity: A Conceptual, Institutional and Regulatory Genealogy'* (2023) 173-188.
[308] Sheehan (n296 above) 111.
[309] Sheehan (n296 above) 111.
[310] Sitepu and Hasnda (n295 above) 58.
[311] Sitepu and Hasnda (n295 above) 58.
[312] Sitepu and Hasnda (n295 above) 58.

(ECHR).[313] Additionally, AI is utilised in the United States to assist identify trends in text files and documents, which is helpful when sorting through a lot of cases or difficult cases with a lot of information.[314]

4.3 The usage of Artificial Intelligence in the legal practice in China

Artificial intelligence is being used in China for a number of purposes, including decision support and automated decision making. System developers, judges, and the media observe the entire process, and it's extensively shared on social media.[315] In December 2019, a personal loan dispute was effectively settled by robot judge called Xiaozhi.[316] This robot completed a number of significant tasks:[317] Claim Analysis and Interpretation, including examined the arguments made by each of the case's parties. The robot judge was able to comprehend the arguments and supporting data by using natural language processing technology.[318] The relevant evidence was displayed on the courtroom screen.[319] All parties were able to view and comprehend the evidence at the same time as a result. The robot came up with a ruling that pleased each and every party. This decision was made in respect of the relevant laws and facts.[320]

The 206 System in Shanghai is an artificial intelligence (AI) assistance system that helps courts decides cases in the field of criminal law.[321] Its purpose is to assist judges in processing criminal cases.[322] One of the functions of this system is to review the evidence using consistent standards.[323] This implies that the system can determine if the evidence offered in a case satisfies the standards established by the law and legal doctrines.[324] Optical Character Recognition (OCR) devices enable the technology to identify characters that are embedded in the system, helping

[313] Sitepu and Hasnda (n295 above) 58.
[314] Sitepu and Hasnda (n295 above) 58.
[315] Sitepu and Hasnda (n295 above) 62.
[316] Sitepu and Hasnda (n295 above) 62.
[317] Sitepu and Hasnda (n295 above) 62.
[318] Sitepu and Hasnda (n295 above) 62.
[319] Sitepu and Hasnda (n295 above) 62.
[320] Nu W '*Black Box Justice: Robot Judges and AI-based Judgment Processes in China's Court System*' (2020) 60.
[321]Wang R '*Legal Technology in Contemporary USA and China*' (2020) https://doi.org/10.1016/j.clsr.2020.105459 accessed 18 November 2024 62.
[322] Wang N and Tian MY Intelligence Justice: AI Implementations in China's Legal System (2022) https://doi.org/10.1007/978-3-030-88615-8_10 197-222.
[323] Wang and Tian (n320 above) 197-222.
[324] Wang and Tian (n320 above) 197-222.

law enforcement officials, including police and prosecutors, to meet the standards for evidence.[325] Judges will evaluate cases more quickly if there is consistent evidence presented in court.[326] Data statistics sources are gathered for all forms of crime in order to predict potential future events based on predetermined indicators.[327] This technique can spot inconsistencies or infractions in the legal system.[328] For instance, the system determines if the minimum evidence necessary by criminal procedure law is met.[329] Additionally, the system might look for discrepancies in the admissions made by different defendants or suspects.[330] The system can identify any disparities or anomalies in admissions that might influence case decisions by looking through examination records.[331]

4.3.1 Smart courts: digital and automated supervision

China has emerged as a global leader in artificial intelligence (AI) in the legal space, while originally trailing behind.[332] In addition to a Five-year Reform Outline of the People's Court that would take effect between 2019 and 2023, China originally presented the idea of a "smart court" in 2014.[333] The first smart court opened its doors in Hangzhou in 2017 after robot judges were introduced into the Chinese legal system.[334] Currently, Hangzhou Internet Court, Beijing Internet Court, and Suzhou Intermediate Court of China are all functioning as smart courts.[335] This five-year strategy intends to establish smart courts that address the issues of high court workloads and limited court resources in order to increase efficiency, transparency, and access to justice.[336] To achieve these objectives, the Supreme People's Court (SPC) has adopted several AI-related technological innovations The SPC aimed to incorporate AI into local courts to promote legal

[325] Wang (n319 above) 62.
[326] Wang (n319 above) 62.
[327] Wang (n319 above) 63.
[328] Wang (n319 above) 63.
[329] Wang (n319 above) 63.
[330] Sitepu and Hasnda (n295 above) 63.
[331] Sitepu and Hasnda (n295 above) 63.
[332] Jacob S *'AI Regulations Around the World: A Comprehensive Guide to Governing Artificial Intelligence'* (2024) https://www.spiceworks.com/tech/artificial-intelligence/articles/ai-regulations-around-the-world/ (accessed 18 November 2024).
[333] Supreme People's Court '*Opinion of the Supreme People's Court on Deepening Reform of the People; Courts Comprehensively: Outline of the 4th Five-year Deform of the People's Courts'* (2014-2018) https://www.chinalawtranslate.com/en/court-ref-orm-plan accessed 09 October 2024.
[334] Wang N and Tian MY *'Intelligent Justice: AI Implementations in China's Legal System'* (2022) 211.
[335] Tahura US and Selvadural N *'The Use of Artificial Intelligence in Judicial Decision-Making: Example of China'* 4.
[336] (n331 above) https://www.chinalawtranslate.com/en/court-ref-orm-plan.

knowledge and litigation.[337] These smart courts may also analyse the risks of litigation, help with electronic case submission, and create pleadings for parties.[338]

4.3.2 The technology use in the Chinese Smart Court

China has advanced far faster than the majority of other jurisdictions, despite its tardiness in using legal technology in its legal system. Given that East Asia has a higher percentage of trustworthy AI views than Western countries.[339] Another factor is the disparity between the increasing volume of cases and the lack of workers, which made it challenging to guarantee China's prompt administration of justice.[340] In order to lower case expenses and delays, China began integrating technology into case management. Later on, it expanded these measures to include the establishment of several smart courts through the use of cutting-edge technology.[341] In 2017, the State Council presented a national strategy to establish China as a global leader in artificial intelligence.[342] By 2030, China is expected to become the global hub for artificial intelligence innovation, according to the "New Generation Artificial Intelligence Development Plan."[343]

To create an intelligent ecosystem and trust, local courts have partnered with China's top three smart courts: Beijing Internet Court, Suzhou Intermediate Court of China (Court 206), and Hangzhou Internet Court.[344] A nationwide blockchain-based e-evidence platform has been created as a result of these connections, facilitating the authentication and review of evidence for upcoming hearings.[345] A 206 Court system has been put to the test in a number of Chinese towns and provinces since May 2018.[346] Using the internet, cloud computing, big data, artificial intelligence, and other technologies to their fullest potential, this intelligent court aims to modernise trial procedures and judgment powers.[347] The AI procedure in this court starts with an electronic filing.[348] Additionally, the filers generate an electronic file by scanning the pertinent

[337] (n331 above) https://www.chinalawtranslate.com/en/court-ref-orm-plan.
[338] (n331 above) https://www.chinalawtranslate.com/en/court-ref-orm-plan.
[339] Tahura and Selvadural (n333 above) 14.
[340] Tahura and Selvadural (n333 above) 14.
[341] Tahura and Selvadural (n333 above) 14.
[342] Tahura and Selvadural (n333 above) 14.
[343] Tahura and Selvadural (n333 above) 14.
[344] Tahura and Selvadural (n333 above) 14.
[345] Tahura and Selvadural (n333 above) 14.
[346] Tahura and Selvadural (n333 above) 14.
[347] Tahura and Selvadural (n333 above) 14.
[348] Tahura and Selvadural (n333 above) 14.

documents when the plaintiffs submit their complaints. Intelligent programmes automatically identify and backfill the pertinent file information.[349] During the trial stage, electronic files that broadcast and consistently and simultaneously display materials before the trial bench and the parties constitute the foundation for basic examination and cross-examination.[350] Simultaneous transcription and speech recognition technologies that can accurately identify and automatically annotate the speakers in court are used to translate spoken language into written legal terminology during witness depositions.[351]

Through text processing, image classification, and voice recognition, AI-based automated systems have also been included into the legal trial process.[352] Furthermore, several local courts in Beijing, Quanzhou, Jixi, and Shijiazhuang use guide robots to point litigants and lawyers in the right directions so they can file paperwork or pay costs.[353] In an attempt to improve operational efficiency and free up human judges to focus more on the inspection and appraisal of evidence two crucial trial qualities early AI implementations in Chinese courts mainly focused on communicative, repetitive, and time-consuming tasks.[354] As a result, Suzhou Intermediate Court's intelligent court system is a comprehensive solution that handles the entire litigation process.[355] Important facets of AI-assisted court decision-making are illustrated by a Court 206 system. In the first step, a legal-fact knowledge framework for judgment generation and punishment prediction is created by using AI technologies to extract information from pertinent legal texts.[356] This entails extracting and verifying legal facts from digital case files. The algorithm also produces a trial rationale.[357]

The two components of the trial reason are the application of the laws and regulations and the confirmation of the facts.[358] In the first section, the process by which judges determine which laws and regulations apply to the particular facts at hand is modeled.[359] AI technology assists in

[349] Tahura and Selvadural (n333 above) 14-15.
[350] Tahura and Selvadural (n333 above) 14-15.
[351] Tahura and Selvadural (n333 above) 14-15.
[352] Shi C, Sourdin T and Li B *'The Smart Court A New Pathway to Justice in China'* (2021) DOI: https://doi.org/10.36745/ijca.367 8-12.
[353] Shi, Sourdin and Li (n350 above) 8-12.
[354] Shi, Sourdin and Li (n350 above) 8-12.
[355] Shi, Sourdin and Li (n350 above) 8-12.
[356] Shi, Sourdin and Li (n350 above) 8-12.
[357] Shi, Sourdin and Li (n350 above) 8-12.
[358] Tahura and Selvadural (n333 above) 15.
[359] Tahura and Selvadural (n333 above) 15.

recognising case similarities to ensure consistency in decision-making. After the facts and circumstances are compared with the rules and regulations, the framework provides reasons for judgment.[360] These include the punishment pronouncement and the rationale for the benchmark sentence. Finally, a classification of the conviction reasons serves as the foundation for both conviction and punishment policies.

4.3.3 Chinese Laws and regulations

The possibility of using AI in criminal justice is currently presented by the relevant laws, even though China has not yet promulgated any particular legislation on the subject. For instance, Article 53 of National Security Law of China states that China must fully utilise contemporary technology while doing intelligence information work in order to improve intelligence information identification, screening, synthesis, study, judgment, and analysis.[361] Working with intelligence data is an essential part of criminal justice, especially during the investigation stage, which provides guidance for integrating modern technologies like artificial intelligence with the analysis and assessment of intelligence data. Additionally, the implementation of relevant technological measures and other necessary steps is mandated by China's Network Security Law.

In contrast to the two laws mentioned above, the recently adopted Data Security Law of China,[362] and the Personal Information Protection Law of China in 2021,[363] provide additional clarification on the scenarios in which AI technology can be applied and provide preliminary regulations for its use in concept. For example, the Data Security Law of China provides guidelines for integrating AI into the development of intelligent criminal justice through its laws on the development and use of data technology and the formation of a standard system.[364] For the first time, China's Personal Information Protection Law applies to automated decision-making. When using personal data for automated decision-making, personal information processors are required in terms of Article 24 of the Personal Information Protection Law to ensure the fairness and impartiality of the results as well as the transparency of the decision-making process.[365]

[360] Tahura and Selvadural (n333 above) 15.
[361] Article 53 of *National Security Law of People's Republic of China* of 2015.
[362] The Data Security Law of the People's Republic of China of 2021.
[363] The *Personal Information Protection Law of China of the People's Republic of China* of 2021.
[364] The Data Security Law of the People's Republic of China of 2021.
[365] Article 24 of the *Personal Information Protection Law of the People's Republic of China* of 2021.

Furthermore, in accordance with Article 55, a processor of personal data that utilises it for automated decision-making must first document the processing and conduct an effect assessment on the protection of personal data.[366] It implies that automated decision-making requires openness, impact analysis, and results that are fair.[367] Furthermore, the Personal Information Protection Law of China establishes unique guidelines and standards for protecting personal information while also giving new technologies and applications like AI and face recognition more consideration.[368] It is evident that the majority of China's relevant AI rules and regulations are still primarily foundational and guiding in nature, with limited freedom of operation.[369] However, there are no particular legal restrictions pertaining to the incorporation of AI into intelligent criminal justice.[370] The National People's Congress Standing Committee stated unequivocally that in 2021, all relevant legislative work pertaining to new applications and technologies, such as the digital economy, Internet finance, artificial intelligence, big data, and cloud computing, must be strengthened in order to create a legal framework for sound development.[371] For the integration of AI with the legal control of criminal justice, this offers a substantial guiding value.

The Governance Principles of New-Generation Artificial Intelligence creating Responsible Artificial Intelligence were released in Beijing in 2019 by China's National Professional Committee for the Governance of New-Generation Artificial Intelligence.[372] The document specifically proposed eight principles: open cooperation, agile governance, privacy protection, safe and controllable, fair and just, inclusive and sharing, and harmonious and kind.[373] The aforementioned guidelines serve as an important point of reference for the use of AI in criminal justice.[374] In 2021, the National Professional Committee for the Governance of New-Generation Artificial Intelligence in China released the Code of Ethics for New-Generation AI.[375] Its goal is to help legal entities,

[366] Article 55 of the *Personal Information Protection Law of the People's Republic of China* of 2021.
[367] Wang H '*AI and Administration of Justice in China' (2023)* *https://penal.org/sites/default/files/files/A-12-2023/pdf 9.*
[368] The *Personal Information Protection Law of the People's Republic of China* of 2021.
[369] Wang (n319 above) 9.
[370] Wang (n319 above) 9.
[371] Wang (n319 above) 9.
[372] *'China: AI Governance Principles Released'* (2019) https://www.loc.gov/item/global-legal-monitor/2019-09-09/china-ai-govanance-principle-released accessed 21 September 2024.
[373] (n370 above) https://www.loc.gov/item/global-legal-monitor/2019-09-09/china-ai-govanance-principle-released.
[374] (n370 above) https://www.loc.gov/item/global-legal-monitor/2019-09-09/china-ai-govanance-principle-released.
[375] (n370 above) https://www.loc.gov/item/global-legal-monitor/2019-09-09/china-ai-govanance-principle-released.

natural persons, and other pertinent organisations engaged in AI-related activities integrate ethics with AI across its whole life cycle.[376]

4.4 The usage of Artificial Intelligence in the legal practice in the United State of America

While simultaneously lessening the strain on the legal system, the use of AI in the United States legal sector has contributed to the creation of more accurate, efficient, and impartial legal procedures.[377] Artificial Intelligence (AI) has revolutionised the way law is applied and evaluated in the United States, especially since President Barack Obama launched the Data-Driven Justice (DDJ) project in 2016.[378] By using data analysis, this project seeks to find fairer solutions in the legal system and minimise needless pretrial detentions. This integration consists of lawyers and legal researchers who are able to acquire legal material and precedents more rapidly and precisely because of legal research artificial intelligence (AI) help in automating the process.[379] In order predict case outcomes, Predictive Analysis for Litigation uses past data and judicial patterns.[380] This assists legal firms and their clients in strategically deciding whether to pursue alternative remedies or pursue litigation.[381] Contract Review and E-Discovery: By automating the process of identifying pertinent documents and clauses, this approach expedites the contract review and e-discovery process.[382]

The analysis of data is used to determine which people should be sent to mental health and social services instead of pre-trial incarceration.[383] In addition to lowering the number of needless prisoners, this also contributes to addressing societal mental health concerns.[384] Data-Driven Justice, which puts rehabilitation above punishment, is a step toward a more equitable and evidence-based criminal justice system.[385] All things considered, the United States criminal justice system is credited with being a trailblazer in using artificial intelligence in its adjudication system

[376] (n370 above) https://www.loc.gov/item/global-legal-monitor/2019-09-09/china-ai-govanance-principle-released.
[377] Sitepu and Hasnda (n295 above) 60.
[378] Sitepu and Hasnda (n295 above) 60.
[379] Wang (n319 above) 60.
[380] Wang (n319 above) 60.
[381] Wang (n319 above) 60.
[382] Wang (n319 above) 60.
[383] Caoimhe A 'The impact of algorithms in criminal sentencing on due process right' (2019) https://pureadmin.qub.ac.uk/ws/portalfiles/portal/236355240/The_Impact_of_Algorithms_in_Criminal_Sentencing_on_Due_Process_Rights_Master_Copy_Final_6_.pdf 33-36.
[384] Caoimhe (n381 above) 33-36.
[385] Caoimhe (n381 above) 33-36.

as a judicial process supporter, including helping judges to think through their choices.[386] Using algorithms that are processed based on data, the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) initiative, which has been implemented in the U.S. state of Wisconsin, calculates its probability of subsequent criminal conduct.[387]

In 2013, Paul Zilly was charged, found guilty, and sentenced in Wisconsin for stealing lawnmowers and other goods to resell as replacement parts.[388] Together with Zilly's legal representative, the prosecutor reached a plea agreement that called for a year in county jail and further supervision.[389] On appeal, presiding judge James Babler said he probably would have given Zilly an 18-month imprisonment.[390] Judge Babler, however, dismissed the prosecutor's charges and imposed on Zilly a two-year prison sentence based on COMPAS, which proved that Zilly was likely to commit the same crime again.[391] Similarly, Eric Loomis was detained on suspicion of shooting in the Loomis 2016 Case.[392] The COMPAS risk score was considered by the judge to help decide the appropriate sentencing.[393] COMPAS is a risk assessment tool that calculates a defendant's probability of committing crimes in the future using a proprietary algorithm.[394] Based on the findings of the risk assessment algorithm COMPAS, the Wisconsin state court sentenced the defendant to six years in prison.[395] The use of COMPAS, a proprietary risk assessment tool, must comply with constitutional principles such as due process, equal protection, and the right to a fair trial. However, cases like those of Zilly and Loomis could face challenges if algorithmic assessments appear to override individualised judicial decisions, potentially infringing on the defendants' constitutional rights.

Numerous cases in the United States have referenced Loomis, despite its relatively recent development.[396] The Iowa Court of Appeal overruled the ruling in *State of Iowa v. Gordon* and remanded the case for resentencing because they could not find any statutory justification for

[386] Caoimhe (n381 above) 33-36.
[387] Barysė D and Sarel R *'Algorithms in the Court: Does It Matter Which Part of the Judicial Decision-Making Is Automated'* (2023) 46-117.
[388] Sitepu and Hasnda (n295 above) 60.
[389] Sitepu and Hasnda (n295 above) 60.
[390] Sitepu and Hasnda (n295 above) 60.
[391] Sitepu and Hasnda (n295 above) 60.
[392] State of Wisconsin v Loomis (2016) 881 N.W.2d 749.
[393] Siana JA *'Empowering Justice: Exploring the Applicability of AI in the Judicial System'* (2024) 26.
[394] State of Wisconsin (n390 above) 749.
[395] State of Wisconsin (n390 above) 749.
[396] Caoimhe (n381 above) 30.

using the risk assessment results in sentencing.[397] The Iowa Court ruled that Loomis could not be interpreted to prohibit the sentencing court from employing risk assessment information while issuing an incarceration order, even though it upheld the defendant's jail term.[398] This court used the risk ratings as an aggravating factor, which was obviously against Loomis, to decide that the defendant should be imprisoned rather than released into the community under supervision.[399]

The legal concerns in these two cases are due process that is ensnared in algorithm confidentiality that is safeguarded by the product owner's intellectual property rights.[400] Since the COMPAS algorithm is a trade secret, neither the general public nor the parties concerned in the matter are permitted to analyse it.[401] The Court reiterates that the use of COMPAS should not take the place of the judge's final decision, which is one of the significant legal rules and opinions included in the decisions.[402] Beyond the findings of COMPAS, the judge must still decide on the sentence based on a number of additional considerations.[403] The judge acknowledged the limitations of COMPAS, including the fact that the validation of the data processing methods used to determine risk scores was not disclosed for intellectual property reasons.[404] However, this does not lessen the judge's comprehension of a case because the judge, not Artificial Intelligence, makes the final decision to protect the defendant's rights to a fair legal process.[405]

At the moment, the main artificial intelligence-related law in the United States is the National Artificial Intelligence Initiative Act of 2020.[406] The Act aims to keep the US at the forefront of AI research and development, ensuring that the US remains the world's top country for developing and implementing reliable AI systems in both the public and private sectors.[407] It also emphasizes how important it is to train the American workforce of now and tomorrow to integrate AI technologies into all aspects of society and business.[408] The use of artificial intelligence (AI) in the

[397] *State v. Gordon* 921 N.W.2d 19.
[398] *State v. Gordon* (n395 above) 19.
[399] *State v. Gordon* (n395 above) 19.
[400] Sitepu and Hasnda (n295 above) 60.
[401] Caoimhe (n381 above) 30.
[402] State of Wisconsin (n92 above) 749.
[403] Caoimhe (n381 above) 30.
[404] Caoimhe (n381 above) 30.
[405] Sitepu and Hasnda (n295 above) 61.
[406] National Artificial Intelligence Initiative Act of 2020 https://www.congress.gov/bill/116th-congress/house-bill/6216 accessed 23 November 2024.
[407] (n404 above) https://www.congress.gov/bill/116th-congress/house-bill/6216 accessed 23 November 2024.
[408] (n404 above) https://www.congress.gov/bill/116th-congress/house-bill/6216 accessed 23 November 2024.

legal system seems to be rather common in the US, which has freely invested money in the development of this technology in both civil and criminal processes.[409] Thus, a number of projects pertaining to the application of AI in justice have been put into action in the United States.[410] Artificial Intelligence's primary objective is to assist courts in reaching impartial, fair decisions and in weighing the risks involved. Judges, for instance, use the Public Safety Assessment (PSA) system to decide whether to impose a real or suspended sentence as a preventive measure against the accused, to grant early release, and to determine bail amounts.[411]

Ravel Law is the next Artificial Intelligence technology-based system using pertinent precedents, judge rulings, and reference statements from over 400 courts, this technology enables you to ascertain the outcome of a case.[412] When combined with other AI applications, this has given lawyers an objective and realistic view of the chances of specific legal arguments succeeding in particular courts and in front of particular judges, based on the nature of the case.[413] In order to lessen the workload for court staff and guarantee public access to information, AI-powered chatbots including ROSS Intelligence have been developed in the United States in order to inform the public about common judicial system-related concerns.[414]

4.5 Conclusion

This chapter provides a comparative analysis of the role of AI in civil litigation in China and the United States, highlighting their contrasting approaches and the implications for the future of AI in the legal fraternity. China's centralised model emphasizes large-scale implementation and efficiency, while the U.S. model prioritizes private-sector innovation and adaptability. Both countries offer important lessons and highlight the critical importance of addressing ethical considerations, ensuring transparency, and maintaining human oversight in the development and implementation of AI in the legal field. These findings underscore the need for a balanced approach that harnesses the potential of AI to enhance justice while safeguarding fundamental rights and values.

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[409] Laptev VA and Feyzrakhmanova DR '*Application of Artificial Intelligence in Justice: Current Trends and Future Prospects'* (2024) https://doi.org/10.1007/s44230-024-00074-2 396.
[410] Laptev and Feyzrakhmanova (n407 above) 396.
[411] Laptev and Feyzrakhmanova (n407 above) 396.
[412] Laptev and Feyzrakhmanova (n407 above) 396.
[413] Laptev and Feyzrakhmanova (n404 above) 396.
[414] Siana JA Empowering Justice: Exploring the Applicability of AI in the Judicial System (2024) 26.

Chapter Five: Recommendations

5.1 Introduction

With its enormous potential to influence economies, cultures, and governance structures all over the world, artificial intelligence (AI) has become a game-changing technology.[415] Although the quick development of AI also brings up issues with security, privacy, responsibility, ethics, and the socioeconomic effects of automation.[416] Regulatory frameworks have already been established in countries including the United States of America and the Republic of China to address these issues.[417] As a developing country, South Africa must carefully weigh the benefits and drawbacks of these frameworks in order to create AI laws that support its particular objectives, which include social justice, economic growth, and international competitiveness.

Integrating the principles of public participation and education into the legal framework is important for enhancing South Africa's legal system in the context of AI regulation and governance. The legal system needs to be flexible, responsive, and based on the principles of openness, responsibility, and inclusivity as AI technology develops quickly. South Africa can guarantee that AI serves the general population while addressing possible risks and ethical issues by improving the legal framework in accordance with these principles. The main tactics for enhancing the judicial system with an emphasis on AI that are founded on public participation and educational programmes are listed below.

5.2 The analysis of the Republic of China and United States of America AI Legal Frameworks

China has embraced a state-driven, top-down strategy for the development and governance of AI.[418] The Chinese government has established enormous focuses on the integration of AI in a number of industries, including the legal system, healthcare, finance, and transportation, positioning AI as a fundamental component of its future economic and technical strategy.[419] China intends to lead the world in AI by 2030, according to its Next Generation Artificial Intelligence

[415] '*Report of the Secretary-General, Roadmap for Digital Cooperation'* (United Nations, 2020) 6.
[416] '*Report of the Secretary-General, Roadmap for Digital Cooperation*' (United Nations, 2020) 6.
[417] Sitepu and Hasnda (n295 above) 60-62.
[418] Sitepu and Hasnda (n295 above) 60-62
[419] '*State Council of the* People's Republic of China, *New Generation Artificial Intelligence Development Plan'* (2017)

Development Plan (2017).[420] The plan provides forth a vision for artificial intelligence, emphasizing the creation of AI infrastructure, the advancement of research and development, and the application of AI across industries. Through a number of regulations, like the Cybersecurity Law (2017),[421] which include restrictions on data privacy, the government has started to regulate AI's ethical issues. Nonetheless, the regulation frequently prioritizes corporate growth and governmental interests over individual liberties or openness.[422] China released AI ethics guidelines in 2021 that place a strong emphasis on managing AI systems to reduce risks to societal stability, human rights, and national security.[423] The rules support innovation in a regulated environment where state stability is given top priority.[424]

With laws pertaining to AI being created at the federal, state, and business levels, the US takes a more decentralised approach to AI regulation. Although the United States leads the world in AI research and innovation, legislative efforts have not kept pace, particularly when it comes to privacy protections and ethical standards. Although it lacks comprehensive legislation, the United States has developed AI initiatives such as the American AI Initiative (2019), which prioritizes AI research and development.[425] States such as California have enacted legislation pertaining to AI, such as the California Consumer Privacy Act (CCPA),[426] which regulates how businesses gather and utilise customer data, including data analytics powered by AI. U.S. AI rules are centered on industry-specific guidelines, such as those in financial services, healthcare, and autonomous cars, as opposed to China's more centralised supervision. To guarantee AI accountability, equality, and transparency, federal organisations such as the National Institute of Standards and Technology (NIST) are creating frameworks.[427] The U.S. government has investigated ethical issues related to AI, including privacy, transparency, and bias.[428] The method is still less regimented, though, and the legal frameworks pertaining to AI ethics are still in their infancy.

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[420] Tahura US and Selvadural N *'The Use of Artificial Intelligence in Judicial Decision-Making: Example of China'* 4.
[421] Cybercrime and Cybersecurity Bill B6-2017.
[422] Cybercrime and Cybersecurity Bill B6-2017.
[423] Qiao-Franco G and Zhu R' China's Artificial Intelligence Ethics: Policy Development in an Emergent Community of Practice' (2022) https://doi.org/10.1080/10670564.2022.2153016 7.
[424] Qiao-Fraco and Zhu (n418 above) 7.
[425] American Artificial Intelligence Initiative: Year One Annual Report (Office of Science and Technology Policy, 2020) 3.
[426] California Consumer Privacy Act (CCPA) of 2018.
[427] National Institute of Standards and Technology (NIST), *AI Risk Management Framework: Initial Draft* (NIST, 2022) https://www.nist.gov/itl/ai-risk-management-framework accessed 4 December 2024.
[428] (n442 above) https://www.nist.gov/itl/ai-risk-management-framework.

5.3 South African Legal Frameworks for the Development and Use Artificial Intelligence

5.3.1 The Development of AI in South Africa

The AI environment in South Africa is still developing, but there is a lot of promise for the technology to enhance healthcare, public service delivery, and economic expansion.[429] The nation does, however, have difficulties with the digital gap, educational access, and ethical issues, such as making sure AI benefits all South Africans equitably.[430] Although the country has not yet created a thorough national AI plan, South Africa has shown interest in the technology through programmes such as the South African Artificial Intelligence Institute (3AI).[431] Though laws specifically addressing AI are still being developed, South Africa's current legal frameworks, such as the Protection of Personal Information Act (POPIA),[432] provides some principles for data protection. Additionally, a lack of strong frameworks for ethics and accountability in AI systems raises issues.[433] When creating an AI legal framework, South Africa confronts particular difficulties because of its poor technology infrastructure, a lack of skilled workers, and economic inequalities.[434] AI provides the opportunity to advance beyond conventional economic development stages, however, doing that requires a legislative framework that encourages innovation while addressing key problems such as inclusion, ethics, and privacy.[435]

5.4 Recommendations for the AI Legal Framework in South Africa

5.4.1 Establish a Well-Structured National AI Framework

South Africa should create a clear national artificial intelligence (AI) strategy that supports its socio-economic and legal objectives such as improving public service delivery, creating jobs, access to the justice system, and encouraging inclusive development. The approach ought to establish definite benchmarks for AI advancement in different fields. Encourage public-private collaborations for the research and advancement of AI. To bridge the digital divide, provide South

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[429] Department of Communication and Digital Technologies (2024) *'South African National AI Policy Framework'* *https://fwblaw.co.za/wp-content/uploads/2024/08/South-Africa-National-AI-Policy-Framework.pdf* 1.

[430](n426 above) https://fwblaw.co.za/wp-content/uploads/2024/08/South-Africa-National-AI-Policy-Framework.pdf

[431] 'SA to establish Artificial Intelligence Institute' (01st September 2024) https://www.sanews.gov.za/south-africa/sa-establish-artificial-intelligence-institute.

[432] Protection of Personal Information Act (POPIA) 4 of 2013.

[433] Casillo K and Powell A 'Challenge in regulating the use of Artificial Intelligence' https://www.ensafrica.com/news/detail/6874/challenges-in-regulating-the-use-of-artificia.

[434] Casillo and Powell (n430 above) https://www.ensafrica.com/news/detail/6874/challenges-in-regulating-the-use-of-artificia.

[435](n426 above) https://fwblaw.co.za/wp-content/uploads/2024/08/South-Africa-National-AI-Policy-Framework.pdf 10.

African workers priority when it comes to AI training and upskilling. The United States of America decentralised, industry-specific regulation, and China's top-down strategy should both be incorporated into South Africa's regulatory framework. Implementing a national AI ethics board to oversee AI applications with a focus on accountability, openness, equity, and human rights should be a key part of this paradigm. Similarly to the U.S. model, which focuses on the unique threats AI brings to each business, developing AI legislation for important sectors includes the legal system, healthcare, the banking sector, and education.

By enacting clear laws that strike a balance between privacy protection and innovation, South Africa should improve data governance. South Africa should amend the POPIA to incorporate AI-specific provisions, guaranteeing data used for AI development is secure and consent-based by incorporating aspects from the United States of America, the California Consumer Privacy Act,[436] and China's Cybersecurity legislation.[437] Provide frameworks for AI-driven data analytics that address issues like algorithmic bias prevention and data usage transparency.[438] South Africa should set up AI research centers and offer funding for AI companies and innovation in order to maintain its competitiveness in the global AI market.

5.4.2 Legal Framework for Participation of the Public in AI National Legislation

Public participation and education regarding the usage and governance of AI technologies are essential for the legal system to effectively regulate AI. In addition to ensuring that the system continues to respond to public complaints, this would assist in building public trust. The AI laws in South Africa ought to include provisions that encourage public involvement in the regulating process. The creation of public forums, consultations, and workshops ought to be required by law as a component of the process of developing AI policies. Through these forums for public involvement, people would be able to voice their worries, offer suggestions, and take part in conversations regarding ethical implications, possible dangers, and advantages of AI technologies. Government agencies may be compelled to communicate with the general public, business stakeholders, and civil society organisations before enacting new AI laws. This guarantees that the legal process takes into account the perspectives of people impacted by AI,

[436] California Consumer Privacy Act of 2018.
[437] Gong J and Jin F 'China Data Protection and Cybersecurity: Annual Review of 2023 and Outlook for 2024 (I)' https://www.twobirds.com/en/insights/2024/china/china-data-protection-and-cybersecurity-annual-review-of-2023-and-outlook-for-2024-1 accessed 04 December 2024
[438] Gong and Jin (n435 above) https://www.twobirds.com/en/insights/2024/china/china-data-protection-and-cybersecurity-annual-review-of-2023-and-outlook-for-2024-1.

such as marginalised communities or workers who will be automated. The government ought to provide online platforms where residents can participate in consultations and discussions, voice their ideas, and help shape policy in order to guarantee greater participation, particularly from remote areas or marginalised groups.

Transparency in the development and implementation of AI in civil litigation should be mandated by the law. Public scrutiny of AI systems is necessary, particularly those employed by public sector businesses or government bodies. AI systems should go through "AI impact assessments" to determine the societal repercussions of their implementation, just like environmental impact assessments are necessary for major infrastructure projects. These evaluations ought to be available to the general public and contain information about the system's architecture, data use, possible biases, and the measures used to guarantee accountability and fairness. Regular audits and transparency reports ought to be required by law for AI developers and government organisations that use AI. These audits ought to cover the data used, the decision-making process of AI systems, and any possible societal repercussions.

5.4.3 Integrating Legal Education and AI Education

Legal experts, lawmakers, and the general public must all have a thorough understanding of AI for the legal system to regulate it properly. Making legal practitioners knowledgeable about the intricacies of AI and incorporating AI education into the legal profession should be South Africa's top priorities. AI ought to be a required course in South Africa's legal education curriculum. The interaction of AI, law, and ethics should be covered in specific courses offered by law schools and universities. The ethical, human rights, and societal ramifications of AI deployment should be taught to legal students in addition to the technology itself. South Africa should engage with academic institutions and AI specialists to create a curriculum for law students that covers subjects includes algorithmic bias, data privacy legislation, AI governance, the ethics of automation, and global AI regulatory frameworks. This would result in a generation of attorneys who are able to handle the new difficulties presented by AI technology in addition to being conversant with conventional legal principles.

Continuous education in AI technologies is essential for judges, lawmakers, and practicing lawyers. To ensure that legal practitioners are prepared to handle new legal difficulties, programs for continuous legal education (CLE) should be created to keep them informed about the most recent advancements in artificial intelligence. Regular workshops and seminars on AI regulation,

legal ethics, and the effects of developing technology should be arranged by the government or legal associations. These programs might cover ethical disputes, best practices for AI governance, and case studies of AI deployment. To guarantee a thorough grasp of AI's potential, constraints, and ramifications for law and society, the legal community should collaborate closely with AI developers, ethicists, and technologists.

5.5 Conclusion

Artificial Intelligence laws in South Africa should take into account the country's particular socioeconomic situation while also taking inspiration from international best practices.[439] South Africa will be positioned as a leader in AI development in Africa with a well-balanced framework that encourages innovation, safeguards citizens' rights, and upholds ethical standards.[440] South Africa can fully utilise AI while reducing risks associated with its widespread use by combining sector-specific legislation, robust data protection laws, strategic planning, and an emphasis on inclusivity and education.[441] The law and policy in South Africa has to change to address the difficulties presented by AI.[442] The nation can create an ethical, inclusive, and successful AI legal framework by combining public involvement, ongoing education, inclusive AI rules, and robust governance mechanisms.[443] In order to ensure that AI benefits society while averting harm and defending individual rights, the legal system should protect the citizens.[444] By taking a well-rounded strategy, South Africa can handle the particular requirements and difficulties of its varied people while establishing itself as a pioneer in AI regulation.[445]

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[439] *'South Africa Artificial Intelligence Policy Framework'* (August 2024) https://fwblaw.co.za/wp-content/uploads/2024/10/South-Africa-National-AI-Policy-Framework-1.pdf 1.

[440] (n437 above) https://fwblaw.co.za/wp-content/uploads/2024/10/South-Africa-National-AI-Policy-Framework-1.pdf 1-6.

[441] '*South Africa: Department of Communication and Digital Technologies releases Artificial Intelligence Policy Framework*' (2024) https://bowmanslaw.com/insights/south-africa-department-of-communications-and-digital-technologies-releases-artificial-intelligence-policy-framework/ 2-4.

[442] (n439 above) https://bowmanslaw.com/insights/south-africa-department-of-communications-and-digital-technologies-releases-artificial-intelligence-policy-framework/ 2-4.

[443] Tony (n68 above) 9-11.

[444] Bains C *'The Legal doctrine that will be key to preventing AI discrimination'* (2024) https://www.brookings.edu/articles/the-legal-doctrine-that-will-be-key-to-preventing-ai-discrimination/ accessed on 18 December 2024.

[445] (437 above) https://fwblaw.co.za/wp-content/uploads/2024/10/South-Africa-National-AI-Policy-Framework-1.pdf 1-6.

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