

# HiveLaw: Propelling the Nelson Mandela University Law Clinic into the Future: A Consideration of Technology's Integral Role in Modern Legal Service Delivery and the Consequences for Legal Education

M Welgemoed\*, L Coetzee\*\*, R Beerman\*\*\* and E J van Vuuren\*\*\*\*

Online ISSN  
1727-3781

## P·E·R

Pioneer in peer-reviewed,  
open access online law publications

### Authors

Marc Welgemoed  
Lindi Coetzee  
Retha Beerman  
Elbi J van Vuuren

### Affiliation

Nelson Mandela University  
Cliffe Dekker Hofmeyr Inc  
StrategicPulse Consulting  
South Africa

### Email

marc.welgemoed@mandela.ac.za  
Lindi.Coetzee@mandela.ac.za  
retha.beerman@cdhlegal.com  
elbi.vanvuuren@strategicpulse.co.za

### Date Submitted

13 February 2024

### Date Revised

5 June 2024

### Date Accepted

5 June 2024

### Date Published

17 October 2024

### Guest Editor

Prof H Chitimira

### Journal Editor

Prof W Erlank

### How to cite this contribution

Welgemoed M, Coetzee L, Beerman R and J van Vuuren E  
"HiveLaw: Propelling the Nelson Mandela University Law Clinic into the Future: A Consideration of Technology's Integral Role in Modern Legal Service Delivery and the Consequences for Legal Education" *PER / PELJ* 2024(27) - DOI  
<http://dx.doi.org/10.17159/1727-3781/2024/v27i0a17926>

### Copyright



### DOI

<http://dx.doi.org/10.17159/1727-3781/2024/v27i0a17926>

### Abstract

The effective training of law students, which demystifies technology, and the creation of cost effective, fit for purpose technology solutions are crucial to democratising legal technology and levelling the playing fields between "Big Law" and the legal services available to the bulk of South African citizens.

A public/private partnership between the Nelson Mandela Faculty of Law, the university's Information and Communication Technology department and a consortium of legal practitioners (including Cliffe Dekker Hofmeyr and various industry players) has piloted HiveLaw, a SharePoint-based practice management solution custom designed to fit university law clinics' dual purpose of legal service delivery and practical legal education.

This pilot serves as a case study firstly to investigate how legal technology can contribute to transformative teaching and learning and transformative legal practice at university law clinics, as it exposes staff and students to the benefits of digital and online activities. Secondly, the pilot illustrates how proficiency in the use of technology such as HiveLaw aids the staff and students to adapt to digital processes while improving access to justice for indigent communities. In this way staff and students make a difference in the working world by implementing their knowledge in legal practice, which is widely known for slowly adapting to digital processes, while being exposed to experiential learning and getting in touch with the demands of modern legal practice.

### Keywords

Technology; legal profession; HiveLaw; legal education; Fourth Industrial Revolution; 4IR; transformative legal education; access to justice; legal education.

.....

## 1 Introduction

Section 34 of the South African Constitution, 1996 provides that "everyone has the right to have any dispute resolved by the application of law decided in a fair public hearing before a court or, where appropriate, another independent and impartial tribunal or forum." In 2015 South Africa was one of 193 countries that adopted the UN 2030 Agenda for Sustainable Development.<sup>1</sup> Goal 16 of the United Nations Development Goals provides for the "promotion of peaceful and inclusive societies for sustainable development, the provision of access to justice for all (own emphasis) and for the building of effective, accountable and inclusive institutions at all levels."<sup>2</sup> In 2016 the Organisation for Economic Co-operation and Development (OECD) reported that approximately four billion people around the world do not enjoy the protection of the law.<sup>3</sup> The report further stated that countries around the world are putting measures in place to improve access to justice, which include modernising the functions of legal and judicial services.<sup>4</sup> In this same publication the OECD acknowledges that many challenges still exist, including that persons' inability to solve legal problems reduces their ability to access economic possibilities. The latter makes it difficult for persons to escape poverty, which is bad for South Africa, which is regarded as one of the most unequal societies in the world.<sup>5</sup> The Covid19 pandemic and the restrictions imposed by the provisions of the *Disaster Management Act 57 of 2002*<sup>6</sup> have highlighted the need for a modernised justice system that will be accessible to everyone in South Africa. Access to justice is critical to achieving SDG 16. Additionally, access

---

\* Marc Welgemoed. B Iuris LLB (cum laude) (UPE) LLM (cum laude) (NMMU) LLD (Nelson Mandela University). Senior Lecturer in the Department of Criminal and Procedural Law, Nelson Mandela University, Gqeberha, South Africa. Email: marc.welgemoed@mandela.ac.za. ORCID: <https://orcid.org/0000-0002-3462-276X>.

\*\* Lindi Coetzee. B Iuris LLB (UPE) LLM (Unisa). Senior Lecturer in the Department of Mercantile Law at Nelson Mandela University, Gqeberha, South Africa. Email: Lindi.Coetzee@mandela.ac.za. ORCID: <https://orcid.org/0000-0003-0350-4338>.

\*\*\* Retha Beerman. BLC (UP) LLB (UNISA) LLM (University of Michigan). Director, Cliffe Dekker Hofmeyr Inc, Johannesburg, South Africa. Email: retha.beerman@cdhlegal.com.

\*\*\*\* Elbi J van Vuuren. BLC LLB (cum laude) (UP) LLM (University of Arizona). Director, StrategicPulse Consulting, South Africa. Email: elbi.vanvuuren@strategicpulse.co.za.

<sup>1</sup> UN 2023 <https://sdgs.un.org/2030agenda>; Statistics South Africa 2019 [https://www.statssa.gov.za/MDG/SDGs\\_Country\\_Report\\_2019\\_South\\_Africa.pdf](https://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf).

<sup>2</sup> UN 2023 <https://sdgs.un.org/2030agenda> SDG 16.

<sup>3</sup> OECD Issues Brief 2016 <https://www.oecd.org/gov/delivering-access-to-justice-for-all.pdf>.

<sup>4</sup> OECD/Pathfinders 2023 <https://doi.org/10.1787/c5fbed7e-en>.

<sup>5</sup> Francis and Webster 2019 *Development Southern Africa* 788-802; Posel and Rogan 2019 *Journal of Human Development and Capabilities* 94-111.

<sup>6</sup> GN 313 in GG 43096 of 15 March 2020.

to justice will also contribute to achieving some of the other UN Sustainable Development Goals, e.g., SDGs 1 and 2 Eradicating poverty and Hunger.<sup>7</sup>

The Council for Higher Education's standard for the Bachelor of Laws provides that one of the characteristics of the professional degree is that it "prepares students for professional training, postgraduate studies, or professional practice in a wide range of careers."<sup>8</sup> The standard requires that students must be provided with sufficient knowledge of the theory and principles of the law.<sup>9</sup> Additionally, students must develop the ability to apply their legal knowledge in practice, amongst other situations. The standard acknowledges that the degree programme can have "a component of work-integrated learning".<sup>10</sup> Law clinics at university provide law students the opportunity to obtain the practical skills that is a characteristic of the qualification standard. These law clinics at South African universities have over many years fulfilled a dual purpose, namely the provision of clinical legal education to law students and the provision of legal services to the indigent. The meaning of clinical legal education might differ depending on whether a faculty of law has a live-client or a simulated law clinic. At Nelson Mandela University the Faculty of Law has a live-client law clinic. Clinical legal education (CLE) in a live-client clinic equips students with a variety of skills that they would require when they enter the legal profession.

In this article we consider a pilot project that forms part of a public/private partnership between the Nelson Mandela Faculty of Law, the University's Information and Communication Technology department, and a consortium of legal practitioners (including Cliffe Dekker Hofmeyr and various industry players). This project piloted HiveLaw, a SharePoint-based practice management solution custom designed to fit university law clinics' dual purpose. The pilot took place during 2022 to 2023. The discussion will illuminate the origin of HiveLaw at Nelson Mandela University, and also explain its various components and basic operation. Particularly important will be the discussion around the benefits of HiveLaw as far as transformative legal education as part of CLE is concerned, as well as the important and innovative role it can play in respect of improving access to justice.

---

<sup>7</sup> OECD Issues Brief 2016 <https://www.oecd.org/gov/delivering-access-to-justice-for-all.pdf>.

<sup>8</sup> Council for Higher Education 2015 <https://www.che.ac.za/file/7297/download?token=JjuWknW1>.

<sup>9</sup> Council for Higher Education 2015 <https://www.che.ac.za/file/7297/download?token=JjuWknW1>.

<sup>10</sup> Council for Higher Education 2015 <https://www.che.ac.za/file/7297/download?token=JjuWknW1>.

## 2 Fourth Industrial Revolution

The world currently finds itself in the era of the Fourth Industrial Revolution (4IR). The World Economic Forum poses the following questions with regard to this period:

- (a) are current technologies tools that people can identify, take control of, and consciously use in manners to improve people's lives?<sup>11</sup> or
- (b) is current technology a powerful object and an enabler that has an influence on human perception of the world, which can change our behaviour as well as the human perception of what it means to be human?<sup>12</sup>

The World Economic Forum furthermore responds to the abovementioned questions in the following manner:<sup>13</sup>

Technologies are emerging and affecting our lives in ways that indicate we are at the beginning of a Fourth Industrial Revolution, a new era that builds and extends the impact of digitization in new and unanticipated ways. It is therefore worthwhile taking some time to consider exactly what kind of shifts we are experiencing and how we might, collectively and individually, ensure that it creates benefits for the many, rather than the few.

The 4IR can be defined as the advent of cyber-physical systems<sup>14</sup> which have new capabilities for people and machines in store, including new forms of machine intelligence.<sup>15</sup> This digital tech renaissance, as it has been described,<sup>16</sup> appears to be a time of great promise, but not without dangers.<sup>17</sup> Apart from any apparent dangers, there is no real doubt that digital technology and artificial intelligence (AI) have the potential to

---

<sup>11</sup> World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

<sup>12</sup> World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

<sup>13</sup> World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

<sup>14</sup> Berkeley CPS Publications date unknown <https://ptolemy.berkeley.edu/projects/cps/>. Cyber-physical systems (CPS) refer to integrations of computation, networking, and physical processes. The physical processes are controlled by embedded computers and networks.

<sup>15</sup> World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>. On 18 November 2019, at the SAULCA Workshop and AGM in Johannesburg, Mr Lourens Grove from the University of Pretoria Law Clinic confirmed that the 4IR is now in progress. The first revolution concerned steam, the second was electricity, the third had been nuclear power, while the digital world and interactive communication forms the basis of the fourth.

<sup>16</sup> Araya 2020 <https://www.forbes.com/sites/danielaraya/2020/04/14/the-coming-digital-renaissance/?sh=77bc5775759d>.

<sup>17</sup> World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

revolutionise the legal profession. Morgan remarks as follows in this regard:<sup>18</sup>

Indeed, we may not be far from future development of 'expert systems' that can even begin to do basic legal reasoning and analysis. For as long as computers are restricted to dealing with language rather than abstract concepts, human beings are likely to be better at discerning patterns in apparently disparate information. There seems little doubt, however, that in areas of the law where words are regularly used in patterns, expert systems may indeed be possible.

It has already been argued that sophisticated algorithms are gradually performing several tasks normally performed by paralegals and legal practitioners.<sup>19</sup> For the purposes of this paper it is important to investigate and evaluate the potential impact that the 4IR and factors surrounding it may have on legal practice, as well as on legal education. It has been stated that the use of technology, both proven and in the experimental stage, will continue to show growth and transform some aspects relating to legal education.<sup>20</sup>

From the outset it can be said that, regardless of what type of legal career law graduates pursue, they will need to be skilled in computer-based technology to execute their work effectively.<sup>21</sup> The development of these skills during the course of legal education is not only a manner of preparing law students for legal practice, but also of promoting a lawyer's role in society.<sup>22</sup> Considering transformative constitutionalism and transformative legal education, this may play a key role in the value that a legal practitioner can add to the daily wellbeing of members of the public who require legal assistance and representation in furthering and protecting their fundamental rights.<sup>23</sup> In short, transformative constitutionalism denotes a change, brought about in a structured manner. The aim of such a change is to improve upon existing circumstances by adhering to a constitutional system.<sup>24</sup> For the purposes of legal education, it has been argued – which argument is supported in this paper – that transformative constitutionalism should have an impact on the content and methodologies used to teach law modules at university.<sup>25</sup> What this means in practice is that students should be taught to study the law carefully and critically evaluate it in the light of the

---

<sup>18</sup> Morgan 2011 *GW Law Faculty Publications and Other Works* 8.

<sup>19</sup> Hutchinson 2017 *Mon LR* 569. Also see Frey and Osborne 2013 <https://oms-www.files.svcdn.com/production/downloads/academic/future-of-employment.pdf> 2-3 in this regard.

<sup>20</sup> Stuckey *et al Best Practices for Legal Education* 159.

<sup>21</sup> Quinot and Greenbaum 2015 *Stell LR* 57.

<sup>22</sup> Quinot and Greenbaum 2015 *Stell LR* 57.

See Bleasedale *et al* "Law Clinics" 47, where it is stated that technology is transforming the delivery of legal services and the administration of justice.

<sup>24</sup> Mbenenge 2018 *Speculum Juris* 2.

<sup>25</sup> Welgemoed *Integration of Clinical Legal Education* 25.

values enshrined in the Constitution.<sup>26</sup> Transformative legal education provides the mechanism in which this evaluation can be achieved. In brief, transformative legal education is guided by transformative constitutionalism, as explained,<sup>27</sup> and embraces the paradigm of constructivism, which paradigm is explained elsewhere.<sup>28</sup> The impact of the digital era on the acceptance of knowledge, as well as teaching and learning, is an important component of transformative legal education<sup>29</sup> and finds application in the context of this paper. What is the combined significance of both these concepts? It has been argued that there is a constitutional imperative on law schools to produce graduates who are adequately prepared to enter legal practice.<sup>30</sup> This argument is fully supported in this paper. If such an argument is accepted, it means that the training of law students should involve the use of digital systems to evaluate the impact that such systems can have not only on the education of the law student but also on legal practice and access to justice. This will be discussed in more detail below.<sup>31</sup>

The nature of a legal practitioners' daily work has not really changed much since the Industrial Revolution<sup>32</sup> in comparison to that of other professions.<sup>33</sup> This includes a quality movement and standard measures of legal services quality and value.<sup>34</sup> The rapid improvements in the ability of technologies during the fourth Industrial Revolution has enabled individuals and businesses to improve their efficiency.<sup>35</sup> It is submitted that technological development can add value to legal services and legal procedures, and that it offers an opportunity to develop and even transform legal practice. Moreover, it is submitted that there is a moral (if not a legal) obligation on legal practitioners to ensure that they are sufficiently apprised of the functionality underpinning the technologies they deploy, to ensure that they maintain the standards of practice applicable to the profession. Katz<sup>36</sup> states the following about technological development in the legal field:

In the field of law, practitioners have fairly readily adopted law office, case management, and communications technologies, for better or for worse. But

---

<sup>26</sup> See Zitske 2014 *Acta Academica* 55 in this regard.

<sup>27</sup> Quinot and Greenbaum 2015 *Stell LR* 34.

<sup>28</sup> See section 5.2.

<sup>29</sup> Quinot and Greenbaum 2015 *Stell LR* 35.

<sup>30</sup> Welgemoed *Integration of Clinical Legal Education* 83.

<sup>31</sup> See section 5.

<sup>32</sup> See Britannica 2023 <https://www.britannica.com/money/Industrial-Revolution>.

<sup>33</sup> Baker 2018 *L Libr J* 13. Also see Linna 2020 <https://www.legaltechlever.com/wp-content/uploads/sites/151/2020/03/Linna-Evaluating-Legal-Services-Quality-Value-2020-03-12.pdf> in this regard.

<sup>34</sup> Linna 2020 <https://www.legaltechlever.com/wp-content/uploads/sites/151/2020/03/Linna-Evaluating-Legal-Services-Quality-Value-2020-03-12.pdf>.

<sup>35</sup> Schwab *Fourth Industrial Revolution* 20-3.

<sup>36</sup> Katz 2014 *Albany Law Journal of Science and Technology* 3.

the acceptance of technological assistance with handling the substance of the law and in the courts has been slower.<sup>37</sup>

However slow, the legal profession has indeed started to adapt to the digital age. This adaptation has also been prompted by the growing pressures for change in the profession.<sup>38</sup> There are several expert systems that have been developed for use by attorneys.<sup>39</sup> Legal practitioners at law firms are using a multitude of platforms and sources, such as legislation, website links and hardcopies.<sup>40</sup>

### 3 The need for HiveLaw at the Nelson Mandela University Law Clinic

#### 3.1 Law clinics in general

The Nelson Mandela University Law Clinic, like all other law clinics around the world, renders professional and free legal services to indigent members of society. It operates like a conventional law firm except for certain types of legal services that are statutorily precluded from its daily operation.<sup>41</sup> Law clinics fulfil a key role in assisting to prepare students for entry into legal practice.<sup>42</sup> Wizner correctly points out that there is a clear link between legal

<sup>37</sup> Also see Heyink *Introduction to Cloud Computing 2*, where the author states that the law in South Africa has fallen behind as far as the advancement of new technologies is concerned.

<sup>38</sup> Barnhizer 1979 *J Leg Ed* 68. The November 2020 paper delivered to the International Bar Association's annual meeting in Miami entitled "Developing a Blueprint for Global Legal Education" was the result of an ambitious research project led by the Law Schools Global League, with the overarching objective of developing a "blueprint" outlining the main trends, challenges and opportunities emerging in legal education. One of the key learnings listed in the final "blueprint" is that: "Law schools should include courses on legal tech. Some believe there should be programmes fully focused on legal tech." It was found that technology is one of the three greatest challenges for legal education internationally.

<sup>39</sup> Baker 2018 *L Libr J* 13; Katz 2014 *Albany Law Journal of Science and Technology* 28. See Bregman 2013 *De Rebus* 19. More applications and programmes have been developed up to the time of writing this paper, but it is evident that legal practice is adapting to the demands of the 4IR. Although all applications are not directed specifically at the legal profession, the legal profession can equally make productive and efficient use thereof.

<sup>40</sup> Hutchinson 2017 *Mon LR* 572. Despite being in the digital age, many attorneys still prefer to use templates in hardcopy format. LawBox Practice Management Software is an example of office management software that can be used to manage cases, billing, client trust accounts and client information – see LawBox 2024 <https://www.lawbox.co.za/>. In some High Courts, the Caselines system is also used to facilitate casefile management with regard to litigious matters – see South African Judiciary 2022 <https://www.judiciary.org.za/index.php/court-online/covid-19/63-caselines>.

<sup>41</sup> See Rule 36.1.6 in Gen N 401 in GG 41781 of 20 July 2018 in this regard. A complete listing of and discussion relating to these services falls outside the scope of this paper.

<sup>42</sup> Marumoagae 2013 *De Rebus* 34; Cantatore 2018 *IJCLE* 147.

practice, legal education and the functioning of the legal system.<sup>43</sup> The university law clinic, where students can undergo practical legal training by way of CLE, is ideal for the purpose of preparing students for legal practice.<sup>44</sup> In short, CLE entails a teaching methodology by way of which students will receive tuition during classroom sessions as well as practical sessions at a law clinic. In this way students can apply their legal knowledge during their practical work. CLE further entails tutorial sessions. During tutorials student problems concerning the theoretical and/or practical work can be addressed and solutions can be suggested. Students furthermore can reflect on their endeavours, which is an important aspect of self-evaluation and monitoring their progress.

### **3.2 The Nelson Mandela University Law Clinic prior to HiveLaw**

Previously the Nelson Mandela University Law Clinic conducted all its daily operations in a paper-based manner. This does not mean that the Nelson Mandela University Law Clinic did not have any digital measures in place to facilitate administrative matters. Indeed, there was an electronic database and SharePoint site on which client file details and other documents were captured. However, the electronic database contained only the initials, surname and file number of the clients. The SharePoint site contained only documents like statistics and templates of a selection of pleadings, but nothing else. Appointments were written down in a conventional office desk diary. Attorneys, candidate attorneys and students relied on paper-based templates – but also electronic templates sometimes – for guidance when drafting letters, pleadings or other legal documents. Consultation notes, client details and documentation relevant to clients' cases were kept in dedicated paper-based client files. All notes, after the initial consultation, were made by way of pen entries in the paper-based client files. When students worked at the Nelson Mandela University Law Clinic, their drafting work would sometimes be done by way of pen on paper, although some advancements occurred (e.g., that students successfully adapted to delivering typed work electronically). The assessment of students' work happened either by way of marking written or printed documents with pen, or by making comments and/or track changes on electronic documents.

### **3.3 The creation and purpose of LawLabz**

Quality legal services in South Africa are unavailable to most people. Despite the recent progress, the training provided to aspirant lawyers in

---

<sup>43</sup> Wizner 2002 *Fordham L Rev* 1929.

<sup>44</sup> See Wizner 2002 *Fordham L Rev* 1929-1930, as well as Du Plessis 2011 *Journal for Juridical Science* 25 where it is stated that CLE is the best guide to assisting law students with their transition from law school to practice. Also see Welgemoed *Integration of Clinical Legal Education* 274-278 for an elaborate discussion in this regard.



university law clinics does not always include the use of the technology used in the provision of legal services and is sometimes disconnected from the technological realities of modern legal practice. Other concerns may include challenges in respect of data collection and the dangers of relying on inaccurate data, which impacts negatively on stakeholders. The combination of the lack of access to justice, challenges in respect of training in practical aspects of servicing clients, and the cost of software to enable quality legal services is a cause for concern. This stands in stark contrast to the technology and tools readily available to those with the means to pay for them. The reality is that many people might have no or limited access to justice because their lawyer was not adequately trained in the use of modern legal technology, cannot afford it, or is simply unaware of the efficiencies to be gained through proper practice management using tools that safeguard the integrity of data, streamline practice management, and efficiently represent clients.<sup>45</sup>

Driven by a shared passion to alleviate these concerns, the former Executive Dean of the Faculty of Law at Nelson Mandela University, Professor Avinash Govindjee, and attorneys firm Cliffe Dekker Hofmeyr (CDH) brainstormed potential solutions in early 2019 and resolved to drive the launch of a digital practice management system at the Nelson Mandela University Law Clinic.<sup>46</sup> Such a system would catapult the Nelson Mandela University Law Clinic into the future, bolstering the future of legal practice and setting an example for other law clinics in South Africa. The result of this initial contact was that CDH, CloudEssentials (a software company) and Professor Govindjee would establish SA LawLabz, a joint venture (hereafter referred to as "LawLabz").<sup>47</sup>

### **3.4 Conceptualising and implementing HiveLaw at the Nelson Mandela University Law Clinic**

LawLabz's first project was to drive the development of a digital practice management system for the Nelson Mandela University Law Clinic tailor made to fit the Nelson Mandela University Law Clinic's daily needs and requirements, but always with a view to extending the initiative to other law clinics. The project followed a typical software development approach and typical project management disciplines, as set out in Figure 1. Without touching on each element of the process, key experiences and learnings are highlighted below.

---

<sup>45</sup> SALRC Report, *Project 142* para 4 of the Executive Summary xxvi, paras 1.6 and 1.7 and pars 1.12.

<sup>46</sup> The initial consultation took place on 2 April 2019 via Skype.

<sup>47</sup> Professor Govindjee has since had to hand the baton as majority shareholder to Badian Maasdorp, himself a lawyer and expert in venture capital.



Figure 1

A critical step was to determine the Nelson Mandela University Law Clinic's needs and requirements.<sup>48</sup> LawLabz' teams of specialist lawyers, technical experts and academics conducted a series of meetings with the management of the Nelson Mandela University Law Clinic and the Executive Dean to map the needs of the Nelson Mandela Law Clinic (considering the matters it deals with, the training it is required to offer, and its existing technological environment). The identification, creation and curation of taxonomies, linkages and processes were rolled into these discussions. These meetings culminated in the conceptualising of the most effective solution, which involved the creation of a technologically advanced environment that could be easily (re)created, supported and implemented. It became clear how the new system could change the daily workflow of the

<sup>48</sup> Step 3 in Figure 1.

Nelson Mandela Law Clinic, as well as what benefits it could offer not only for legal education, but also in respect of promoting access to justice.

The main development of HiveLaw continued from 2019 to 2021. At the end of 2021 a partial pilot was launched at the Nelson Mandela Law Clinic and a LawLabz support team attended the Nelson Mandela University Law Clinic's office to train staff.

It was initially foreseen that students might be onboarded as early as 2022, but it became apparent that time constraints, the ongoing disruption to legal education because of (amongst others) the COVID pandemic, and the need to first secure sufficient experience with the system on the part of the staff at the Nelson Mandela Law Clinic required a delay in student onboarding. HiveLaw adoption rates as tracked in 2022 proved slow at first, and several initiatives were launched, aimed at addressing the underlying causes. The primary reasons identified for the slow initial adoption rates were –

- (a) law clinics, by their nature, have a high turnover of staff<sup>49</sup> and the need for immediately available training to onboard new users is critical. In addition to the training offered by the development team, expert users in the Nelson Mandela Law Clinic had to be developed so that continuity could be maintained and users could develop sufficient skills to be self-sufficient in training new joiners;
- (b) the structure of the project team did not initially include sufficient participation from Nelson Mandela University IT staff, which created room for process inefficiencies;
- (c) HiveLaw had to undergo robust testing to identify development errors and improvement opportunities, as well as to test its ability to seamlessly integrate with University IT systems. This required time and energy commitments from an already busy team at the Nelson Mandela Law Clinic. Additional capacity had to be created to take up the slack; and
- (d) introducing new processes and new technologies to any workplace presents challenges, especially when the technology is bespoke, and its introduction includes both testing and change management components. These challenges are not unique to the circumstances and will therefore not be elaborated on too much. However, it is important to note that change is difficult, irrespective of whatever admirable reasons might be available to bring about the change, and

---

<sup>49</sup> See South African University Law Clinics Association 2023 <https://www.saulca.co.za/file/5f044d3bbf8c7/part-11the-main-challenges-faced-by-clinics-during-2016.pdf> with regard to staff turnover. The statistics for 2016 indicate that at least two clinics clearly indicated that staff turnover and staff retention are major problems at law clinics.

that attention must be given to the human element in introducing the change. The HiveLaw project was no exception.

The following initiatives were launched to address these difficulties –

- (a) the starting point was for the leadership of the various role players to reflect again on what the project was seeking to achieve and the reason(s) for such achievement, as well as to critically evaluate where support needed to be bolstered to meet the challenges identified. The result was a refreshed commitment to the importance of the overall project and an open discussion on how to address the challenges in the context of what was achievable;
- (b) to address the need for readily available experienced users, "super-users" were identified from amongst the Nelson Mandela Law Clinic staff and trained to form a core group of skilled users able to assist other staff and students with general HiveLaw user queries. Funding is always an issue, but with a clear vision of what was needed to achieve testing and deployment success, funding was secured. Currently there are two super users at the Nelson Mandela Law Clinic. In addition to answering user queries, the super users are tasked (and were specifically trained) to train new users;
- (c) in May 2023 an intensive testing and training week was launched with a larger team attending at the Nelson Mandela Law Clinic's office to train each staff member in detail on all aspects of HiveLaw. Additional online training has been offered since then as necessary, but increasingly the super users have become a primary support for other users;
- (d) interactions with the Nelson Mandela University's Information and Communications Technology (ICT) Department increased to ensure the root causes of problems were appropriately identified and then addressed by the right expert support team – the ICT department for device- or network-related issues and the HiveLaw team for HiveLaw-related issues;
- (e) leading up to the intensive training week, weekly online meetings between LawLabz, a selection of the staff from the Nelson Mandela Law Clinic and members of the ICT department were introduced. These meetings commenced shortly before the intensive training week and continued consistently until after the resolution of all implementation matters. The agendas of these joint meetings covered any issues experienced with HiveLaw, reports on the usage of HiveLaw's various modules, and advice on data migration. The meetings *inter alia* highlighted additional training needs and helped

refine the ongoing support model between LawLabz and the Nelson Mandela Law Clinic; and

- (f) specific focus was given to data migration challenges – migrating the Nelson Mandela Law Clinic's paper-based files to HiveLaw. The LawLabz team advised the Nelson Mandela Law Clinic on best practice in this regard, assisted with building some shortcuts on HiveLaw to aid the capturing process, and assisted the Nelson Mandela Law Clinic with funding a data capturer who could assist with onboarding all the client files of the Nelson Mandela Law Clinic.

In this way a very productive symbiotic relationship developed between the Nelson Mandela Law Clinic and LawLabz to ensure a fluid operation of HiveLaw. The project is now moving to its next phase – ongoing maintenance and support - and the Nelson Mandela Law Clinic and HiveLaw will consider the onboarding of the full complement of students registered for CLE shortly. The first cohort of students will be onboarded onto the HiveLaw system during about June or July 2024. From there, the onboarding of new students will be done at the beginning of 2025, while 2024 students will be offboarded at the end of 2024.

#### **4 Operation and functionality of HiveLaw**

HiveLaw is built in a SharePoint environment and brings technology and practice management in law clinics up to date when compared with systems and processes used in a modern legal practice. In practice its purpose is for employees of law clinics and their students to be able to use the same type of technology they would encounter in a modern legal practice. It also seeks to ensure that law clinics are best positioned to deliver excellent legal services to their clients. HiveLaw's material technical capabilities include:

- client onboarding,<sup>50</sup> management, and off-boarding;<sup>51</sup>
- document management;
- email filing;

---

<sup>50</sup> Client onboarding is the process of assessing, approving and setting clients up in the regulatory and technical environment of the Law Clinic. It includes capturing their information, creating the terms of business between the Law Clinic and the client, and opening the necessary files and folders to support the provision of legal services to them.

<sup>51</sup> Client off-boarding is the process of updating the client's records to reflect that the Law Clinic no longer has an open matter for that client. This happens once the mandate held by the Law Clinic is discharged or terminated for another reason (e.g. the mandate might be withdrawn by client).

- rights management;
- time recording;
- accounting; and
- student onboarding and assessment of their use of the solution. The latter will not be found in practice but is built in to facilitate CLE.

These functionalities form the core of the technologies in use at most law firms and represent best in class options. Some aspects were introduced to offer practice management functionality (e.g., the electronic capture of client information with instant and seamless matter opening and the automatic creation of instruction confirmations), whilst others primarily seek to improve work quality and efficiency and/or risk mitigation (e.g., automated work templates and the easy capture of communications in the matter folder structure). Some functionalities were included primarily for the purpose of training law students.

## **5 Impact of the HiveLaw system on legal education and access to justice**

### **5.1 General**

The institution of the university is first and foremost an entity where education takes place.<sup>52</sup> This presupposes that a University Law Clinic, being an integral part of the university, should also be responsible for educating students for the purposes of entering the working world after graduation. Furthermore CLE, being the teaching methodology used by the majority of ULCs around the world, means that education is provided to students in the form of laying a firm theoretical foundation enhanced by experiential learning and rounded off by way of reflecting on what had been learned and experienced.<sup>53</sup> The significance of this argument is that the HiveLaw system should ideally have an impact on the education of students. An aspect of student education, access to justice, being another integral aspect of ULCs, cannot be ignored. It is submitted that although the main purpose of a ULC is the provision of legal education to law students there should be a balance between providing professional education to students and ensuring access to justice for the public.<sup>54</sup>

---

<sup>52</sup> Welgemoed 2016 *Litnet Akademies* 756.

<sup>53</sup> See section 3.1 for an explanation of CLE as a teaching methodology.

<sup>54</sup> Van der Merwe 2018 *De Rebus* 15; Welgemoed 2016 *Litnet Akademies* 768.

## 5.2 Impact on legal education

The HiveLaw system incorporates AI designed to creatively advance the daily administration at a ULC. It further incorporates template generating capabilities that can significantly accelerate the drafting of legal letters, processes and pleadings in an accurate manner. When graduates enter legal practice it will be expected of them to get acquainted with and experienced in the daily administration in a law firm. Daily administration includes the onboarding of new clients, keeping abreast of developments relating to existing clients, monitoring messages and fees on client files, monitoring statistics relating to various clients and types of cases, filing documents and messages in client files, and closing client files, to mention but a few examples. As the HiveLaw system brings about new and modern ways to accommodate all these functions, students can learn a lot about the future of legal practice while working with the system. This is especially conducive to transformative legal education, as the students employ technology in their learning, a manner of learning that steers away from the traditional Socratic teaching methodology.<sup>55</sup> Furthermore, the learning experience by students is active as they gain knowledge and experience while using the system. In this way they can clearly see what works and what does not, as well as explore expedient ways in which to complete tasks. This type of learning experience aligns with the theory of constructivism, which basically entails that students should play an active role when learning<sup>56</sup> – the teacher should not merely relay information to students, a process which is more akin to the Socratic teaching methodology.<sup>57</sup>

The adoption of technology might be at an advanced stage for some law firms, but that is not true in every instance. Smaller firms especially might themselves still lag. In such instances students can use their knowledge in legal practice to promote the adoption of online and electronic systems in

---

<sup>55</sup> Welgemoed *Integration of Clinical Legal Education* 145, 148, 154 and 411. In short, the Socratic teaching methodology entails students sitting in a classroom while listening to a teacher. There is very little participation from the side of the students, while the teacher basically conveys all information to the students via a conventional lecturing style. Furthermore, the Socratic teaching methodology entails very little to no skills training and/or experiential learning. See Regassa 2009 *Ethiopian Journal of Legal Education* 56, as well as Welgemoed *Integration of Clinical Legal Education* 179-182 for a more elaborate discussion on the Socratic teaching methodology.

<sup>56</sup> Quinot and Greenbaum 2015 *Stell LR* 35; Welgemoed *Integration of Clinical Legal Education* 39. In short, constructivism entails that students learn by way of new experiences, which experiences add to their already existing knowledge base. Student and teacher should engage on a regular basis and equal level. Teachers cannot simply convey information to students – students should actively participate to find knowledge – see Quinot and Greenbaum 2015 *Stell LR* 35 in this regard.

<sup>57</sup> Quinot and Greenbaum 2015 *Stell LR* 35; Welgemoed *Integration of Clinical Legal Education* 85.

law firms that have been reluctant to implement such systems in their daily activities.<sup>58</sup> In this way students will realise the importance of the training that they have undergone at university level, as well as the value that a system such as HiveLaw can bring to the daily operation of a law firm. It is submitted that legal education in this regard follows a two-way stream, *i.e.*, from the university to the student, as well as from the student to legal practice. It is further submitted that, in utilising their knowledge to enrich technological development in legal practice, students will recognise the value of the training and knowledge that they have gained at university level. This appreciation of the value of the HiveLaw system having been developed among students, they should be afforded sufficient time to reflect on the system, how it facilitates their workflow, how it facilitates the cases of their clients, and how they can utilise their knowledge and experience of the system after graduation.<sup>59</sup>

The benefits of being acquainted at the time of seeking entry into the profession with the technologies that are used in the typical large law firm can also not be underestimated. Both at individual student level and at the level of a university's reputation for delivering students who are ready for practice, access to training that specifically targets practice readiness offers the prospect of differentiating participating students in a very competitive marketplace. It further contributes to the Faculty of Law's responsibility to ensure that its qualification meets the key characteristics set out in the Council for Higher Education's (hereafter referred to as "CHE") qualification standard for the Bachelor of Laws. Providing students with an opportunity to improve their employability is one of the ultimate outcomes that might be achieved. Moreover, students who are already acquainted with some of the practical demands of legal practice at a technologically advanced law firm (not least of which is the awareness of the importance in practice of effective document and matter management, the recording of time and the billing of fees) might feel significantly calmer and better prepared for what is a very turbulent, stressful transition into the working world.

Law clinicians should also provide students with sufficient feedback<sup>60</sup> about their efforts in using the HiveLaw system. Such feedback will amplify reflection by the students, promoting the acquisition of knowledge and experience by the students. Reflection by students is important for the purpose of lifelong learning and law schools should facilitate lifelong learning by students.<sup>61</sup> Reflection and lifelong learning are essential to helping students keep track of their successes and failures, as well as how

---

<sup>58</sup> Welgemoed *Integration of Clinical Legal Education* 57, 426 and 486.

<sup>59</sup> Stuckey *et al Best Practices for Legal Education* 66.

<sup>60</sup> Bodenstein *Law Clinics and the Clinical Law Movement* 236.

<sup>61</sup> Stuckey *et al Best Practices for Legal Education* 66.



to plan their future efforts to continuously improve their work.<sup>62</sup> This is especially important as far as the 4IR and the impact thereof on the working world are concerned, as basically all industries are driven by software systems and AI. The legal profession, as well as the training of law students, should therefore be no exception.

Legal practitioners might also gain a better perception of the possibilities that legal education at university level has to offer, as well as the value that transformative legal education can have on the development of legal practices and service delivery to clients. In this way CLE can facilitate the removal of any disconnect that might exist between academia and legal practice, if indeed such a disconnect does exist. Legal practitioners, utilising AI systems in their practices, might even devise ways in which a system like HiveLaw can be further improved to enhance student education. This may result in a situation where legal practitioners actively participate in the furtherance of legal education relating to online systems to such an extent that, when students enter the working world, they know exactly what legal practitioners expect of them when working with online systems. It is submitted, however, that this state of events will take some time to develop, especially considering how slow the legal profession is to adapt to change, especially to technological advances. Although such changes are slow, they are happening.<sup>63</sup>

### **5.3 Impact on access to justice**

As was previously stated, ULCs should focus on legal education.<sup>64</sup> However, as ULCs also serve indigent members of society, access to justice should be balanced against legal education. As the staff and students at the Nelson Mandela University Law Clinic will be using the HiveLaw system as part of the daily operation of the ULC, it speaks for itself that the system will inevitably have an impact on access to justice. It is important for the purposes of the future development and enhancement of the system to evaluate the impact that it has on access to justice.

Firstly, it has happened in legal practice – and that also goes for ULCs – that client files and/or documents in such files have been lost and/or misplaced. In such instances it is usually a challenge to retrieve the file content. It might appear as unprofessional to call a client and request copies of identity documents, marriage certificates, copies of contracts, *etc*, for inclusion in a new version of the client file. With the HiveLaw system firmly in place, all the documents mentioned will be uploaded to the system's

---

<sup>62</sup> Stuckey *et al Best Practices for Legal Education* 66.

<sup>63</sup> Barnhizer 1979 *J Leg Ed* 68. Also see Bullows 2021 *The Law Teacher* 258 in this regard The more traditional type of law firm is no longer a viable option due to the increasing role of technology.

<sup>64</sup> See section 4.1.

cloud-based database during the client onboarding and/or consultation stages. This means that once the documentation has been uploaded it cannot be lost.<sup>65</sup> Staff and students at the Nelson Mandela University Law Clinic and their clients can therefore rest assured that their cases will not be delayed by lost and/or misplaced files and documentation.

Secondly, client information and the contents of client files are more secure than might be the case with paper-based files and documentation. In a conventional ULC set up, client files are paper-based and stored in filing cabinets. Any staff member and student can access the files in such filing cabinets when working at the ULC. However, with the HiveLaw system not all staff members and students will have access to all files. They will have access only to files to which they specifically have been granted access. This means that client confidentiality is preserved and improved. Clients can therefore have their matters attended to by the staff and students at the Nelson Mandela University Law Clinic with the utmost confidence that their information will be secure and out of sight from anyone other than their legal representatives and/or student consultants. This aspect plays an important role in the integrity of the HiveLaw system, as well as the impact it has on the perspective that clients may have of the quality of the legal services that they get from the Nelson Mandela University Law Clinic. As such, the reputational benefit of the HiveLaw system to the Nelson Mandela University Law Clinic is of immense value, because it will be evident that the ULC can provide access to justice to members of the community in a professional and accurate manner at a swift yet efficient pace.

Thirdly the HiveLaw system offers document-generating capabilities. Staff and students at the Nelson Mandela University Law Clinic can use these capabilities to draft letters of demand, summonses and particulars of claim, pleas, counterclaims, affidavits, *etc*, with much more certainty and accuracy. This might reduce the time that students (especially) and inexperienced candidate attorneys might spend on researching the drafting of documents. It might further reduce the time that Nelson Mandela University Law Clinic staff and students take to draft legal documents. The result will be that letters and legal documents are drafted at a quicker pace with concomitant faster service and/or delivery of such documents to the applicable recipients thereof. In this way, more work done can be done in a shorter time by the Nelson Mandela University Law Clinic. It might also lead to improved client satisfaction due to their being provided with professional, accurate and expedient legal services.

---

<sup>65</sup> This statement requires qualification. Documentation, uploaded to HiveLaw's cloud-based database, can be deleted. However, it should not be deleted without a good reason. Whatever the case may be, in general, any documentation that has been uploaded is regarded as securely filed and available at any time.

Fourthly, the use of a system like HiveLaw would contribute to the achievement of justice for the most marginalised in society. The records contained in HiveLaw provide evidence that can be used by South Africa to show its progress towards achieving Sustainable Development Goal 16(3).

#### **5.4 Potential future expansion**

Section 29 of the *Legal Practice Act 28 of 2024* (LPA) provides that compulsory community service must be performed by all legal practitioners and candidate legal practitioners. However, the obligation to perform community service has not commenced yet. It was envisaged that it would commence on 1 January 2024, but this date has also been postponed, and no new commencement date has been published at the time of writing this paper.<sup>66</sup> Furthermore, it is not clear which services are included in community service. An amendment to the LPA Regulations provides that community service means, *inter alia*, "... the provision of legal services at no fee or at a reduced fee ... to community and educational organisations in matters ... where the payment of standard legal fees would cause hardship..."<sup>67</sup> The amended regulations further provide that "[a]ny lectures or training presented to candidate legal practitioners by legal practitioners, at no charge with no remuneration, will be regarded as community service."<sup>68</sup> A further future consideration in the development of HiveLaw would be to explore how practitioners can be given access to specific files to supervise candidate legal practitioners and law students at university law clinics on particular matters. The HiveLaw system already has the functionality of giving limited access to specific files to individuals. However, more work must be done to explore how HiveLaw can be used by practitioners to comply with their community service requirements. Although these amended regulations refer to legal services being rendered and not specifically to the training that legal practitioners provide to law students at law clinics, it is submitted that the LPC should consider those services as included in what will be included in community service. In the context of the HiveLaw system, legal practitioners can provide an immense contribution to the practical training of law students and candidate attorneys at university law clinics.

Where legal practitioners have experience in the operation of software systems akin to the HiveLaw system, they could share their experience and transfer their skills to undergraduate law students. Practitioners can create short educational videos that can be posted on the HiveLaw SharePoint for students. If the provision of supervision to undergraduate law students were to be included in community service, this would be an incentive for legal

---

<sup>66</sup> Regulation 4B(1)(a)(ii) of GN R3778 in GG 49104 of 11 August 2023.

<sup>67</sup> Regulation 4B(1)(a)(ii) of GN R3778 in GG 49104 of 11 August 2023.

<sup>68</sup> Regulation 4B(1)(a)(ii) of GN R3778 in GG 49104 of 11 August 2023.

practitioners to become involved in legal education. Simultaneously, transformative legal education would take place because of the use of a digital system for learning and teaching.<sup>69</sup> Training of this nature would enhance CLE by extending it beyond the classroom.<sup>70</sup> This would enrich CLE, because students would obtain supervision and training from legal practitioners who would be their colleagues in practice in future.

### **5.5 Concluding remarks**

The combined impact of the HiveLaw system on legal education and access to justice is immense and transformative in nature. Not only does the system educate students about legal practice as driven by the 4IR, but it also paves the way for indigent members of society to experience quick, efficient and professional legal assistance. This does not mean that the conventional ways in which the Nelson Mandela University Law Clinic and other ULCs operate are defective in any manner. It means, however, that the Nelson Mandela University Law Clinic is taking a decisive and imaginative stance designed to improve practical legal education by aligning it with the demands of the 4IR. In this way, CLE improves upon its own teaching components to ensure maximum skills transfer to law students, as well as professional and swift service to clients of ULCs.

## **6 Conclusion**

As legal practice develops, so must legal education. The ability to train law students for legal practice requires an awareness of what role technology currently plays in legal practice, and how that will further develop over time. An initiative such as this offers the opportunity for adopting a multi-disciplinary approach to applying, studying and teaching technology.

The inception of the HiveLaw system and the implementation thereof at the Nelson Mandela University Law Clinic are concrete proof of the desire of the Faculty of Law at Nelson Mandela University to revisit and improve the quality and methodology of its learning and teaching approaches. Furthermore, the system clearly shows that academia and the legal profession can – and should – collaborate to ensure that the best possible training and cutting-edge knowledge are provided to law students. It is submitted that the mere existence of the HiveLaw system finally puts to bed the long and winding debate about universities being there only to convey knowledge and not to teach practice or to prepare students for the working

---

<sup>69</sup> See section 5.2 above.

<sup>70</sup> See Welgemoed *Integration of Clinical Legal Education* 358-371 for a discussion of the involvement of legal practitioners in the training of law students, as well as extending CLE outside the classroom.

world.<sup>71</sup> A system of this nature indeed shows why university training is so important for preparing students for the working world: graduates can use their newly acquired knowledge to make a significant impact on legal practice and will assist legal practitioners to align their practices and work approaches with the demands of the 4IR.<sup>72</sup> The HiveLaw system is therefore a significant and necessary component of CLE for the following reasons:

1. it promotes practical legal education in that students constructively learn how to utilise modern administrative tools in the everyday operation of a law firm;
2. it creates a firm theoretical basis that underscores practical legal education in that students are made cognisant of the importance of the effect that such a system can have on legal practice and access to justice, as well as how they (the students) can use such a system to improve legal practice upon entering the working world; and
3. it promotes access to justice, not only for ULCs, but also for private legal practitioners.<sup>73</sup> Rolled out on a national scale it would have the potential to greatly contribute to South Africa's efforts towards achieving access to justice as required by UN SDG 16(3).

Based on the discussion in this paper, clear answers can be formulated to the questions of the World Economic Forum, which questions were posed at the beginning of this paper<sup>74</sup>:

1. the HiveLaw is a system with which users can identify, including both the staff and the students at the Nelson Mandela University Law Clinic, as the university is encouraging blended learning and adapting its existing systems to align with the demands of the 4IR. Blended learning entails a combination of online activities and actual contact in the classroom or during other face-to-face activities.<sup>75</sup> The system can furthermore be controlled by staff and students at the Nelson Mandela University Law Clinic to consciously improve the lives not only of the clients of the ULC but also of the staff and students. While clients' matters are administered in a modern, quick and professional manner,

<sup>71</sup> In this regard see *inter alia* Geraghty 2012 *Notre Dame L Rev* 693; Holness 2013 *PELJ* 333; Kruse 2013 *McGeorge L Rev* 16; McQuoid-Mason 2003 *Journal for Juridical Science* 200, and Welgemoed *Integration of Clinical Legal Education* 12-14.

<sup>72</sup> See section 4.2.

<sup>73</sup> See section 4.2 above for a complete discussion.

<sup>74</sup> See section 1.

<sup>75</sup> Strydom *et al* 2020 <https://www.sun.ac.za/english/learning-teaching/ctl/Documents/Responding%20to%20the%20necessity%20for%20change%20HE%20voices%20from%20the%20South%20during%20the%20COVID%20crisis.pdf> 13.

- the skills and practical experience of staff and students are augmented to such an extent that the system can even impact on the working world after the students' graduation; and
2. it is submitted that the HiveLaw system has the capability to change people's perception of legal services and the value society places on them and their very human struggles, irrespective of their economic circumstances. The more the system is used by staff and students at the Nelson Mandela University Law Clinic, the more appreciation they will develop for the system, most probably to such an extent that the system will be seen as a commodity that should always have been there. The way in which the system can improve the lives of people, i.e., those of clients, staff, students and stakeholders in legal practice after students' graduation (as a result of the students' impact on legal practice) will in all probability be the basis for this appreciation. In this aspect lies the realisation of how legal services can be transformed by technology: staff and students may develop a sense of appreciation for technology that could further their education, skills and practical experience, and in the process make them more employable. In acquiring these competencies they will develop into better versions of themselves, leaving them with an improved and enhanced profile as human beings in the working world. As far as their clients are concerned, they may appreciate the fact that the latest technology is being used to promote the administration of their cases. This appreciation would leave them with an enhanced sense of dignity, as they realise that they are human beings whose matters are being attended to by other human beings who have their best interests at heart.

Lastly, and specifically referring to access to justice, it should be noted that the Preamble of the LPA<sup>76</sup> provides for "a legislative framework for the transformation and restructuring of the legal profession ... that broadly reflects the diversity and demographics of the Republic; ..." It could be argued that "diversity" includes a generation of people who have been born amidst a myriad of gadgets and technology and are ready to use such technology in their daily interaction with society.<sup>77</sup> The Preamble also provides that "legal services are accessible" to the public. It has already been pointed out in this paper how the HiveLaw system, combined with CLE at the Nelson Mandela University Law Clinic, can ensure accessible legal

---

<sup>76</sup> *Legal Practice Act 28 of 2014.*

<sup>77</sup> As a foundation for this argument see Gerhardt, Nachemson-Ekwall and Fogel 2022 <https://hbr.org/2022/03/harnessing-the-power-of-age-diversity>. Generational identity or generational diversity is of importance here.

services to indigent members of the community. As the HiveLaw system can facilitate the workflow and accuracy of documents and daily administration at the Nelson Mandela University Law Clinic, especially when used by students, it provides for accessible legal services to more indigent members of the community every day. This may be achieved by more work being done in a shorter period, resulting in an increase in professional legal services over a given period. Should the HiveLaw system be outsourced to other ULCs, as well as eventually to legal practice in general, it goes without saying that legal services may be delivered at a more efficient pace to the public, while remaining professional and ethical in nature. The HiveLaw system therefore has the potential to align not only the Nelson Mandela University Law Clinic but also other ULCs as well as legal practice in general with the ever-growing demands of the 4IR and contribute to the achievement of South Africa's international obligation towards achieving UN SDG 16.3 (access to justice).

## Bibliography

### Literature

Baker 2018 *L Libr J*

Baker JJ "2018: A Legal Research Odyssey: Artificial Intelligence as Disruptor" 2018 *L Libr J* 5-30

Barnhizer 1979 *J Leg Ed*

Barnhizer DR "The Clinical Method of Legal Instruction: It's Theory and Implementation" 1979 *J Leg Ed* 67-148

Bleasdale *et al* "Law Clinics"

Bleasdale L *et al* "Law Clinics: What, Why and How?" in Thomas L and Johnson N (eds) *The Clinical Legal Education Handbook* (University of London Press London 2020) 8-56

Bodenstein *Law Clinics and the Clinical Law Movement*

Bodenstein J (ed) *Law Clinics and the Clinical Law Movement in South Africa* (Juta Claremont 2018)

Bregman 2013 *De Rebus*

Bregman R "Must-have Apps for iPads and Other Devices" March 2013 *De Rebus* 19

Bullows 2021 *The Law Teacher*

Bullows A "How Technology is Changing the Legal Sector" 2021 *The Law Teacher* 258-264

Cantatore 2018 *IJCLE*

Cantatore F "The Impact of Pro Bono Law Clinics on Employability and Work Readiness in Law Students" 2018 *IJCLE* 147-172

Du Plessis 2011 *Journal for Juridical Science*

Du Plessis MA "Clinical Legal Education: Planning a Curriculum that Can Be Assessed" 2011 *Journal for Juridical Science* 25-57

Francis and Webster 2019 *Development Southern Africa*

Francis D and Webster E "Poverty and Inequality in South Africa: Critical Reflections" 2019 *Development Southern Africa* 788-802

Geraghty 2012 *Notre Dame L Rev*

Geraghty TF "Teaching Trial Advocacy in the 90s and Beyond" 2012 *Notre Dame L Rev* 687-703

Heyink *Introduction to Cloud Computing*

Heyink M *An Introduction to Cloud Computing: Legal Implications for South African Law Firms* (Law Society of South Africa Pretoria 2012)

Holness 2013 *PELJ*

Holness D "Improving Access to Justice through Compulsory Student Work at University Law Clinics" 2013 *PELJ* 328-349

Hutchinson 2017 *Mon LR*

Hutchinson T "Legal Research in the Fourth Industrial Revolution" 2017 *Mon LR* 567-590

Katz 2014 *Albany Law Journal of Science and Technology*

Katz PS "Expert Robot: Using Artificial Intelligence to Assist Judges in Admitting Scientific Expert Testimony" 2014 *Albany Law Journal of Science and Technology* 1-45

Kruse 2013 *McGeorge L Rev*

Kruse KR "Legal Education and Professional Skills: Myths and Misconceptions about Theory and Practice" 2013 45 *McGeorge L Rev* 7-49

McQuoid-Mason 2003 *Journal for Juridical Science*

McQuoid-Mason D "Can't Get No Satisfaction: The Law and Its Customers: Are Universities and Law Schools Producing Lawyers Qualified to Satisfy the Needs of the Public?" 2003 *Journal for Juridical Science* 199-209

Marumoagae 2013 *De Rebus*

Marumoagae C "Preparing for the Future: University Law Clinics Training Candidate Attorneys" September 2013 *De Rebus* 34

Mbenenge 2018 *Speculum Juris*

Mbenenge SM "Transformative Constitutionalism: A Judicial Perspective from the Eastern Cape" 2018 *Speculum Juris* 1-7



Morgan 2011 *GW Law Faculty Publications and Other Works*

Morgan TD "The Changing Face of Legal Education: Its Impact on What It Means to Be a Lawyer" 2011 *GW Law Faculty Publications and Other Works* 1-39

Posel and Rogan 2019 *Journal of Human Development and Capabilities*

Posel D and Rogan M "Inequality, Social Comparisons and Income Aspirations: Evidence from a Highly Unequal Country" 2019 *Journal of Human Development and Capabilities* 94-111

Quinot and Greenbaum 2015 *Stell LR*

Quinot G and Greenbaum L "The Contours of a Pedagogy of Law in South Africa" 2015 *Stell LR* 29-62

Regassa 2009 *Ethiopian Journal of Legal Education*

Regassa T "Legal Education in the New Ethiopian Millennium: Towards a Law Teacher's Wish List" 2009 *Ethiopian Journal of Legal Education* 53-92

SALRC Report, Project 142

South African Law Reform Commission Report, Project 142: *Investigation into Legal Fees – Including Access to Justice and Other Interventions* (SALRC Pretoria 2021)

Schwab *Fourth Industrial Revolution*

Schwab K *The Fourth Industrial Revolution* (Portfolio Penguin London 2017)

Stuckey *et al Best Practices for Legal Education*

Stuckey R *et al Best Practices for Legal Education: A Vision and a Roadmap* (Clinical Legal Education Association Philadelphia 2007)

Van der Merwe 2018 *De Rebus*

Van der Merwe S "Contemporary Challenges Facing Law Clinics" November 2018 *De Rebus* 15

Welgemoed 2016 *Litnet Akademies*

Welgemoed M "Die Balans tussen Kliniese Regsopleiding en Regstoegang per se in 'n Regskliniek – 'n Delikate Spankoord" 2016 *Litnet Akademies* 753-777

Welgemoed *Integration of Clinical Legal Education*

Welgemoed M *Integration of Clinical Legal Education with Procedural Law Modules* (LLD-thesis Nelson Mandela University 2021)

Wizner 2002 *Fordham L Rev*

Wizner S "The Law School Clinic: Legal Education in the Interests of Justice" 2002 *Fordham L Rev* 1929-1937

Zitske 2014 *Acta Academica*

Zitske E "Stop the Illusory Nonsense! Teaching Transformative Delict" 2014 *Acta Academica* 53-76

### **Legislation**

*Constitution of the Republic of South Africa*, 1996

*Disaster Management Act* 57 of 2002

*Legal Practice Act* 28 of 2014

### **Government publications**

Gen N 401 in GG 41781 of 20 July 2018

GN 313 in GG 43096 of 15 March 2020

GN R3778 in GG 49104 of 11 August 2023

### **Internet sources**

Araya 2020 <https://www.forbes.com/sites/danielaraya/2020/04/14/the-coming-digital-renaissance/?sh=77bc5775759d>

Araya D 2020 *The Coming Digital Renaissance* <https://www.forbes.com/sites/danielaraya/2020/04/14/the-coming-digital-renaissance/?sh=77bc5775759d> accessed 12 September 2023

Berkeley CPS Publications date unknown <https://ptolemy.berkeley.edu/projects/cps/>

Berkeley CPS Publications date unknown *Cyber-Physical Systems* <https://ptolemy.berkeley.edu/projects/cps/> accessed 12 September 2023

Britannica 2023 <https://www.britannica.com/money/Industrial-Revolution>

Britannica 2023 *Industrial Revolution* <https://www.britannica.com/money/Industrial-Revolution> accessed 12 September 2023

Council for Higher Education 2015 <https://www.che.ac.za/file/7297/download?token=JjuWknW1>

Council for Higher Education 2015 *Qualification Standard for the Bachelor of Laws (LLB)* <https://www.che.ac.za/file/7297/download?token=JjuWknW1> accessed 8 December 2023

Frey and Osborne 2013 <https://oms-www.files.svdcdn.com/production/downloads/academic/future-of-employment.pdf>

Frey CB and Osborne MA 2013 *The Future of Employment: How Susceptible are Jobs to Computerisation?* <https://oms-www.files.svdcdn.com/production/downloads/academic/future-of-employment.pdf> accessed 29 May 2024

Gerhardt, Nachemson-Ekwall and Fogel 2022 <https://hbr.org/2022/03/harnessing-the-power-of-age-diversity>

Gerhardt MW, Nachemson-Ekwall J and Fogel B 2022 *Harnessing the Power of Age Diversity* <https://hbr.org/2022/03/harnessing-the-power-of-age-diversity> accessed 28 April 2024

LawBox 2024 <https://www.lawbox.co.za/>

LawBox 2024 *Legal Practice Management Software* <https://www.lawbox.co.za/> accessed 19 April 2024

Linna 2020 <https://www.legaltechlever.com/wp-content/uploads/sites/151/2020/03/Linna-Evaluating-Legal-Services-Quality-Value-2020-03-12.pdf>

Linna DW 2020 *Evaluating Legal Services: The Need for a Quality Movement and Standard Measures of Quality and Value* <https://www.legaltechlever.com/wp-content/uploads/sites/151/2020/03/Linna-Evaluating-Legal-Services-Quality-Value-2020-03-12.pdf> accessed 12 September 2023

OECD Issues Brief 2016 <https://www.oecd.org/gov/delivering-access-to-justice-for-all.pdf>

Organisation for Economic Co-operation and Development Issues Brief 2016 *Leveraging the SDGs for Inclusive Growth: Delivering Access to Justice for All* <https://www.oecd.org/gov/delivering-access-to-justice-for-all.pdf> accessed 8 December 2023

OECD/Pathfinders 2023 <https://doi.org/10.1787/c5fbed7e-en>

Organisation for Economic Co-operation and Development / Pathfinders for Peaceful, Just and Inclusive Societies 2023 *Improving the Monitoring of SDG 16.3.3: Towards Better Access to Justice* <https://doi.org/10.1787/c5fbed7e-en> accessed 8 December 2023

South African Judiciary 2022 <https://www.judiciary.org.za/index.php/court-online/covid-19/63-caselines>

South African Judiciary 2022 *Court Online* <https://www.judiciary.org.za/index.php/court-online/covid-19/63-caselines> accessed 20 April 2024

South African University Law Clinics Association 2023 <https://www.saulca.co.za/file/5f044d3bbf8c7/part-11the-main-challenges-faced-by-clinics-during-2016.pdf>

South African University Law Clinics Association 2023 *Main Challenges in Terms of Legal Aid Provision* <https://www.saulca.co.za/file/5f044d3bbf8c7/part-11the-main-challenges-faced-by-clinics-during-2016.pdf> accessed 24 April 2024

Strydom *et al* 2020 <https://www.sun.ac.za/english/learning-teaching/ctl/Documents/Responding%20to%20the%20necessity%20for%20change%2>

0HE%20voices%20from%20the%20South%20during%20the%20COVID%20crisis.pdf

Strydom S *et al* 2020 *Responding to the Necessity for Change: Higher Education Voices from the South during the Covid-19 Crisis*  
<https://www.sun.ac.za/english/learning-teaching/ctl/Documents/Responding%20to%20the%20necessity%20for%20change%20HE%20voices%20from%20the%20South%20during%20the%20COVID%20crisis.pdf> accessed 21 April 2024

Statistics South Africa 2019 [https://www.statssa.gov.za/MDG/SDGs\\_Country\\_Report\\_2019\\_South\\_Africa.pdf](https://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf)

Statistics South Africa 2019 *Sustainable Development Goals: Country Report 2019 – South Africa* [https://www.statssa.gov.za/MDG/SDGs\\_Country\\_Report\\_2019\\_South\\_Africa.pdf](https://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf) accessed 3 December 2023

UN 2023 <https://sdgs.un.org/2030agenda>

United Nations 2023 *Transforming Our World: The 2030 Agenda for Sustainable Development* <https://sdgs.un.org/2030agenda> accessed 3 December 2023

World Economic Forum 2016 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

World Economic Forum 2016 *What is the Fourth Industrial Revolution?* <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/> accessed 12 September 2023

## List of Abbreviations

4IR	Fourth Industrial Revolution
AI	artificial intelligence
CDE	Cliffe Dekker Hofmeyr
CLE	clinical legal education
CPS	cyber-physical systems
Fordham L Rev	Fordham Law Review
ICT	information and communications technology
IJCLE	International Journal of Clinical Legal Education
J Leg Ed	Journal of Legal Education
L Libr J	Law Library Journal
LLB	<i>Baccalaureus Legum</i>
LPA	Legal Practice Act 28 of 2014
McGeorge L Rev	McGeorge Law Review
Mon LR	Monash University Law Review
Notre Dame L Rev	Notre Dame Law Review

OECD	Organisation for Economic Co-operation and Development
PELJ	Potchefstroom Electronic Law Journal
SALRC	South African Law Reform Commission
Stell LR	Stellenbosch Law Review
ULC	University Law Clinic
UN	United Nations