



Social Work and Artificial Intelligence: Towards the Electronic Social Work Field of Specialisation

Thommy Sebatana Molala; Thibedi William Mbaya

Department of Social Work, University of Limpopo, Private Bag X1106, Sovenga, South Africa

E-mail: thibed3@gmail.com

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Abstract

The utilisation of artificial intelligence and other technologies in social work cast doubt on the digital acumen of social workers. This paper sought to contribute to the development of electronic social work popularly known as e-social work. Integrative literature review was adopted as the methodology for this paper. The paper has found that there is a need for the development of the field of electronic social work in order to enable the safe and ethical use of artificial intelligence in practise. In addition, the paper has provided guidelines. The paper found that Continuous Professional Development and an interdisciplinary Master's (coursework) programme that integrates AI in social work can equip e-social workers with skills and knowledge about technologies. To this end, the paper recommends that institutions of higher learning should develop educational programmes, and the South African Council for Social Service Profession should develop policies and ethical guidelines that enable e-social work to be regarded as a field of specialisation in social work. The paper further recommends that social workers need to be provided with digital training in order to maintain confidentiality, informed consent, professional boundaries, professional competence, record keeping, and other ethical considerations.

Keywords: *Social Work; Artificial Intelligence: Social Work*

Introduction

The advent of the Fourth Industrial Revolution (4IR), particularly artificial intelligence (AI) is expected to have ambivalent impact as far as job security is concerned. On the one hand, AI possesses a threat to jobs, and the impact thereof will be across the board as it ranges from low skilled to highly skilled jobs in society (Fourie, 2019). On the other hand, AI has created new jobs like data scientists and robotics (Leprince-Ringuet, 2021). These new careers and the reliance on digital technologies have led to discourse on the efficacy of certain skills, especially related humanities in society. Information Communication Technology (ICT) related skills in demand, and relevant for the digital economy. To this

end, questions have been asked about the efficacy and relevance of humanities disciplines. For example, the proliferation of AI in counselling has induced anxiety among counselling professionals whose jobs are ostensibly being rendered obsolete (The Conversation, 2021). While AI has the potential to perform some social work functions like counselling and assessment, it may not necessarily replace counselling professionals, particularly social workers. Thus, there is a need for coexistence between AI and human professionals.

The issue of skills relevant for the 4IR is one of the most polarising discourses in contemporary society. There are people who are adamant that AI will render human beings obsolete, conversely, there are those who contend that it cannot replace human intelligence (De Cremer & Kasparov, 2021). The above schools of thought seem hell-bent on trying to substantiate their stance on AI and human intelligence, however confluence is required. Thus, the authors are of the view that there is a need for novel educational programmes that fuse ICT and humanities, particularly AI and social work in order to produce well-rounded professionals who are trained in both AI and social work. In consonance, Study International (2019) has reported that there is a need for educational programmes that combine technology and social sciences in order to close the gap created by the demands of the digital age.

In addition, the Organisation for Economic Co-operation and Development (2016) Ministerial Meeting on the digital economy reports that skills relevant for the digital economy should include technology and softer skills such as critical thinking, judgement and problem solving, which are core behavioural science competency. Therefore, this is an indication that neither technology nor human skills can single-handedly solve challenges facing humanity in the digital age. It is within this context that this paper seeks to propose that social workers are equipped with digital knowledge to add to their skills base. Social workers appear to have insufficient digital skills. A research by the Social Care Institute for Excellence (SCIE) and British Association of Social Workers (BASW) found that most social workers feel that their training does not equip them with digital capabilities (SCIE, 2019). Similarly, Molala and Makhubele (2021) aver that social work education is devoid of digital training. Thus, this paper aims to contribute to the development of e-social work as a field of specialisation.

The Aim of the Study

This paper aims to provide recommendations on the development of e-social work as a field of specialisation in social work.

Literature Review on the Developments of Technology in Social Work

This section highlights the origins of technology, particularly AI in social work. The discussions will then focus on the utilisation of AI in social work.

The Use of Technology in Social Work

The use of technology in social work, like the profession itself, has its origins in the global North. Although social work is lagging behind as far as integrating, and embracing technologies in practices, the use of technology in social work dates back to the 80s. Reamer (2015) postulates that the use of technology in social work can be traced to the early 1980s in the form of online self-help support groups. He further stated that it was in the early 90s that social workers started to establish companies, and e-clinics which provided online therapy using secure websites. The technologies which have been used include, among others, online chatrooms, professional networks and e-mails (Finn & Barak, 2010; Grant & Grobman, 1998; Martinez & Clark, 2000). The authors are perplexed by the slow uptake of technology in social work despite its origins in the profession tracing as far back as the early 80s.

The digital age has been characterised by significant developments in technology. However, the authors, as social work practitioners, argue that social work has been sluggish as far as the use of technology is concerned for years now. The Covid-19 pandemic has expedited the use of technologies in multiple sectors, particularly in social work (Pink, Ferguson & Kelly, 2021). The authors have observed that social workers are utilising social media, zoom, e-mail, skype and YouTube to offer services to clients, some of which have been in quarantine and isolation due to Covid-19. Equally, the demand for social work services has risen exponentially, particularly, mental health services due to the fact that the virus has adverse effects on the psychosocial well-being of people (Amadasun, 2020). While medical practitioners have been battling the etiology, treatment, and prevention of the virus, social workers and allied professionals have been ceased with the responsibility to enhance the mental and psychosocial wellbeing of people affected and infected by Covid-19.

Moreover, AI is starting to gain traction in social work albeit at a sluggish pace. Although social work is not yet embracing AI fully, preliminary data shows that AI can play a critical role in social work practice, especially in a data-driven society. Predictive models for health developed by a social work professor Eric Rice, and co-founder of the University of California Center for AI (CAIS), and engineering Professor Milind Tambe have been deployed to select HIV/AIDS peer educators among homeless youth in order to remove subjectivity and biases of social workers in the selection process (Tambe & Rice, 2018). It is reported that these peer educators played an incredible role in increasing of testing and condom usage. In addition, Molala and Makhubele (2021) contend that AI can be utilised to addressing mental health challenges through deploying chatbots and predictive analysis. Thus, it is an indisputable fact that the future of social work is intertwined with AI, and it is in the best interest of the profession to embrace AI-as it has the potential to improve the efficacy of social work services.

Social Work and AI

Anecdotally it may appear as if there is no confluence between social work and AI, however the ubiquity of the latter has an impact on a plethora of disciplines, including social work. Although the uptake of AI social work has been lacklustre, it is a necessity for the profession to adopt AI, and customise it to ensure that it meets ethical provisions upon which social work is engraved. For the purpose of highlighting the potential impact it can have on social work, this section focuses on the use of AI technologies; chatbot and predictive analysis.

Predictive Analysis

Major depressive disorder (MDD) and generalised anxiety disorder (GAD) are major mental health challenges. MDD is denoted by perpetual low mood, motivation, energy, appetite, and irregular sleeping patterns as well as suicidal thoughts (Fava & Kendler, 2000). In addition, GAD is characterised by unrelenting and unmanageable feeling of worrying occurring in multiple aspects of a person's life (Lader, 2015). Both MDD and GAP account for the cause of disability globally. However, literature shows that MDD and GAP are difficult to detect since they are experienced internally (Kessler et al., 2002), and may aggravate overtime in the absence of early detection. In order to find ways to detect MDD and GAP, there is a study aimed at utilising a state of the art machine learning predictive model to detect MDD and GAP from re-analysing data from an observational study. According to Nemesure et al. (2021), this study is the first predictive model to detect MDD and GAP utilising electronic health records with the prospect of predictive validity for unknown mental diagnoses.

In addition, living conditions and having public insurance were highlighted as top predictive factors for MDD, while up to date vaccinations and the use of marijuana were identified as top features for GAP (Nemesure et al., 2021). This model is credited for its ability to provide healthcare workers with information in order to make recommendations, and referral for people suffering from MDD or GAP. De Choudhury et al. (2013) study on retrospective tweets with the aim of predicting depression by analysing

such tweets, and profile of twitter users. This model focuses on the language, emotions, and engagement, of the user in order to ascertain whether there are signs of depression. Thus, it appears that predictive models are critical tools that social workers, among other mental health practitioners, can utilise in their intervention regarding mental illness. The authors are of the view that predictive models can assist social workers with early detection and prevention of mental challenges-since they have ascertained from their practice experience as social workers that most mental health challenges are only detected when they have aggravated due to lack of sophisticated and proactive diagnostic models.

Chatbots

Due to rapid digitalisation, chatbots are expected to play an indelible role in addressing mental health challenges. Chatbots are artificial intelligence technologies that enable conversations and interactions with humans by using spoken, written and visual languages (Abd-Alrazaq et al., 2019). While there may be apprehension regarding suitability of chatbots to deal with mental health challenges, Vaidyam et al. (2019) paint a bleak outlook regarding the global shortage of mental health workers globally, thus chatbots can augment the gap. The authors extrapolate that the mismatch between the low number of mental health workers and the high demand for mental health services is set to proliferate the use of chatbots in addressing mental health challenges.

The University of Pretoria's student counselling unit deploys a chatbot called SCU-B to offer counselling services to students in an effort to expand primary mental healthcare (Mathibela, 2021). SCU-B is deployed within a hybrid model which is also a traditional in-person counselling. In addition, chatbots like Woebot and Help4Mood are utilised for cognitive behavioural therapy in order to assist people experiencing depression and anxiety. It is expected that chatbots like SCU-B, Woebot and Help4Mood will enhance the efficacy of the university's counselling unit, especially in relation to the Covid-19 pandemic.

Methodology

This paper has opted for literature review as a methodology. An integrative literature review has been adopted in the study. Broome (1993) indicates that integrative literature review enables researchers to gain an in-depth understanding of a phenomenon by summarising previous literature. In addition, Torraco (2005) postulates that integrative literature review aims to evaluate critique and synthesise literature in order to recommend new ideas and perspectives. Moreover, Snyder (2019) avers that integrative literature review enables critical analysis of a phenomenon for the purposes of improving knowledge and theory as the phenomenon evolves over time. Thus, the aim of this paper is to critique social work, specifically as it relates to digital capabilities in order to propose a conceptual interdisciplinary Master's (coursework) programme that integrates AI in social work. Therefore, an integrative literature review has enabled the authors to evaluate literature on social work, and to make recommendations for a programme that seeks to enhance Social Workers' digital capabilities.

Literature Search

This paper draws literature from peer reviewed journals and credible corporate publications on AI and digital capabilities of social workers. Electronic database searches account for about 50% of the articles in a literature (Randolph, 2009; Whittemore & Knafl, 2005). It is expected that digitalisation may have pushed the percentage for electronic database searches for articles. To this end, the authors of this paper utilised electronic search engines such as Google and Google scholar. The authors further ensured that articles were drawn from peer reviewed journals and cooperate/organisations with credible contribution in AI and Social Work. Moreover, the literature searches in this paper were comprehensive

in order to garner in-depth information about digital capabilities of Social Workers, thus ensuring that potential biasness is minimised as Whittemore (2007) avows that comprehensive searches are aimed to guard against biasness of review findings. The searches utilised key words and phrases like digital capabilities of social workers, AI and social work and AI in mental health.

Inclusion and Exclusion Criteria

Inclusion and exclusion criteria enable reviewers to separate literature which is relevant from the irrelevant one. It is anticipated that literature reviews elicit voluminous data, therefore Melillo (2020) suggests that the inclusion and exclusion criteria enable reviewers to focus on manageable and relevant literature. Additionally, Evans (2007) contends that the inclusion and exclusion criteria offsets the risk of biasness as it enables readers to make informed judgments regarding the validity of the review-due to the fact that it clearly stipulates the criteria used to include or exclude certain literature. In this paper, literature was included and excluded based on the following:

Inclusion: Literature is included in the paper provided it covers topics on artificial intelligences and its uses in helping professions. In addition, literature is included due to the fact that it covers the digital capabilities of social workers.

Exclusion: Literature is excluded from this paper on the basis that it neither covers AI and its uses in neither Social Work nor digital capabilities of social workers.

Data Analysis

This paper adopted thematic data analysis. O'Leary (2014) describes thematic analysis as method of analysis in which data is categorised in themes which are separately analysed. In addition, Bryman (2012) avers that thematic analysis involves acknowledging themes that are related to the study, building codes and providing a basis for the understanding of the data. The authors adopted thematic analysis due to the fact that it enabled them to flexibly divide the data from literature into two main themes: continuous professional development and interdisciplinary masters in social work and artificial intelligence.

Findings

The paper makes the following findings:

Continuous Professional Development (CPD)

In keeping up with international standards and practice, the Professional Board of Social Work (PBSW) SACSSP established CPD system in order to enhance the quality of social work services (SACSSP, 2019). General Notice 6 of 2020 of the SACSSP stated that social workers practicing e-social work should acquire a minimum of 5 CPD points annually in the field of e-social work and technology (SACSSP, 2020). These training programmes tend to be most effective than formal educational programmes, thusly e-social workers and would be practitioners can continuously amass knowledge about technologies relevant to their field.

CPD on e-social work and technology can enable and encourage skilled and knowledgeable social workers on technology to share their knowledge and expertise with emerging e-social workers. In addition, CPD can assist practitioners to keep abreast of novel and emerging technologies in the dynamic digital society. Moreover, these programmes can enhance the quality of intervention, and ethical conduct.

A Conceptual Framework for an Interdisciplinary Master's (Coursework) Programme That Integrates AI in Social Work.

Literature shows that while the importance of technology is acknowledged in social work, there are no concrete pedagogical and curriculum inclusion of technology in social work (Berzin et al.2015; Hill &Shaw, 2011).Therefore, this section aims to present a conceptual framework for the development of an interdisciplinary Master's programme that integrates AI in social work in order to future-proof the profession-through aligning it with the demands of the digital age. In addition, the integration of AI in social work can enable social workers to possess comprehensive skills that are a prerequisite for the digital economy. Moreover, the interdisciplinary programme will also enable social workers to use AI ethically for the benefit of society.

Rationale of the Interdisciplinary Master's Programme That Integrates AI in Social Work

Although AI perform most tasks that are currently performed by human workers in a multiplicity of industries and sectors, Rainie and Anderson (2017) contend that there are human skills that AI cannot mimic-thus, educational programmes should focus on harnessing skills such as creativity, collaboration, abstract and systems thinking, complex communication as well the ability to function in a diverse environment. Similarly, the authors are convinced that AI cannot replace social workers as they possess complex attributes such as empathy, critical thinking, abstract and strategic, and observation, thus instead of trying to prove that social workers are compassionate and smarter than AI, vice versa, the focus should be on integrating AI in the profession to ensure efficiency and improved services delivery.

Recommendations for Developing E-Social Work as a Discipline

- The institutions of higher learning should develop educational programmes on e-social work in order to equip practitioners with skills and knowledge on e-social work.
- SACSSP should develop policies and ethical guidelines that enable e-social work to be recognised as a field of specialisation in social work.
- There should be CPD training programmes on ethical utilisation of AI and other ICT devices in social work intervention.

Conclusion

This paper sought to analyse the relationship between social work and artificial intelligence in order to develop the e-social work field of specialisation. This paper utilised integrative literature review. In addition, the paper discussed the uses of technology in social work. The paper found that CPD and an interdisciplinary Master's (coursework) programme that integrates AI in social work can equip e-social workers with skills and knowledge about technologies. Finally, the paper recommends that institutions of higher learning should develop educational programmes, and the South African Council for Social Service Profession should develop policies and ethical guidelines that enable e-social work to be regarded as field of specialisation in social work. The paper further recommends that social workers need to be provided with digital training in order to maintain confidentiality, informed consent, professional boundaries, professional competence, record keeping, and other ethical considerations.

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