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## The Impact of Information Communication Technology in teaching accounting in South African secondary schools

MLINDENI CELINHLALO SIYAYA

Faculty of Education, University of Zululand, South Africa, mcsiyayo@gmail.com

ANDREW ENAIFOGHE

Research Fellow Department of Business Management, University of Zululand South Africa, EnaifogheA@unizulu.ac.za

CHINAZA ULEANYA

University of Johannesburg, South Africa, chinazauleanya@yahoo.com

BONGANI THULANI GAMEDE

Social Science Education, University of Zululand, South Africa, gamedeb@unizulu.ac.za

### Abstract

This study examined the impact of Information and Communication Technology (ICT), in teaching accounting subjects in secondary schools, using iLembe District in South Africa as a study area. The study highlighted that the application of ICT in accounting teaching and practices in schools and organisations all over the world has received wide acceptance, not only from business entities but also from accounting educators. Literature shows that accounting subject remains one of the critical subjects in business education, which is designed to equip learners with certain skills, knowledge, aptitude and values towards solving financial problems and towards satisfaction of real-life needs. The study interrogated the central question of what teachers' factors influence the adoption and integration of ICT, in teaching accounting in secondary schools in the iLembe District. Findings from the literature display that Information and Communication Technology have long been heralded as a crucial element of both professional accountancy and accounting education. The study is qualitative in nature and data were collected through a semi-structured interview. Data were collected from ten accounting teachers through semi-structured telephonic interviews due to COVID-19 safety precautions. Responses to the interview guide were recorded and analysed through thematic analysis to determine the similarities and differences in terms of their responses. Conclusively, the study summarized and offer appropriate recommendations for the adoption and integration of ICT into the teaching of accounting in South Africa.

*Keywords: Accounting, Education, Information Communication Technology (ICT), teachers*

### 1 INTRODUCTION AND BACKGROUND

The application of information and communication technology in some selected secondary schools in South Africa using iLembe District as a study area, it is noted that accounting is one of the subjects in business education that is designed to equip learners with certain skills, knowledge, attitudes, and values towards solving financial

problems and towards satisfaction of real-life needs (Siyaya, 2019). This implies that Accounting as a subject is critical to the financial skills necessary for accounting purposes in society.

The world is a global village, where ICT has been incorporated into many areas of our life and has not only made things easy but also made things available at ease for mankind. Notably, accounting education seems to be lacking in the inculcation of ICT knowledge and skills in accounting learners, especially in South Africa (Siemens, Gašević & Dawson, 2015). In the first and second industrial revolutions, accounting functions were being carried out manually in traditional methods of reporting accounting transactions and events, which usually led to delays and monumental frauds.

Consequently, the fast eroding third industrial era, brought about technological advancement and globalization, which is said to be dominated by Information and Communication Technology (ICT) (Gebremeskel, 2016, Enaifoghe, 2021). Sequel to the global and complex economy, the application of ICT in Accounting teaching and practices in schools and organisations all over the world has become of utmost importance not only to business entities but also to accounting educators (Madoda & Chigona, 2019). The introduction of ICT in accounting education makes financial reporting much faster and easier (Enaifoghe, Balogun & Afolabi, 2021).

It is because a large quantity of financial data can be processed, analyzed, interpreted, summarized, stored and retrieved more accurately than the traditional method. Accounting software, for example, enabled the creation of payrolls, cashbooks, balance sheets, trial balances, ledgers, bank reconciliation statements, and cash flow schedules easier, faster, and with fewer or no errors. It also decreases accountants' working hours (Mirriahi, Alonzo & Fox, 2015). According to previous studies, such as Jain (2021), the use of ICT in accounting education has the potential to improve student results. This is because it increases their motivation to solve financial problems and prepares students for the workplace (Merkulova et al., 2018).

Furthermore, this study argues that incorporating ICT into accounting classes would significantly contribute to the development of technical competencies and accounting concepts, issues, and ideas in the classroom. Additionally, in this modern age, especially the global trend of the Fourth Industrial Revolution, the significance of information and communication technology (ICT) in teaching and learning cannot be overstated. It stimulates economic growth and boosts productivity, among other things. Education's primary goal is to educate students for the workplace by utilizing accessible technology.

ICTs enable educational institutions and other organizations to harness and use technology to supplement and support the teaching and learning processes (Gebremeskel, 2016). Despite widespread support for ICT-assisted teaching and learning, as well as investment and donations of ICT equipment to the iLembe District, secondary schools still confront the difficulty of transforming learners' learning processes.

The study's findings are given in a qualitative format for the research objectives and respond to the following research question:

- What are the factors influencing teachers' adoption and integration of ICT in accounting education in secondary schools in the iLembe District?
- What are the school characteristics that operate as facilitators and impediments to incorporating ICT into accounting education in secondary schools in the iLembe District?
- How can ICT techniques improve accounting instruction at secondary schools in the iLembe District?

To provide students with the skills they need to perform effectively in a dynamic, information-rich, and ever-changing society. Thus, the reason for this study which explore the impact that ICT has in the teaching of accounting using the case of selected South African secondary schools.

## 2 CONCEPTUALISING EPISTEMIC DIVERSITY

The introduction of ICT in accounting education makes financial reporting much faster and easier. This is because large quantity of financial data can be processed, analyzed, interpreted, summarized, stored and retrieved more accurately than the traditional method. Accounting software, for example, enabled the creation of payrolls, cashbooks, balance sheets, trial balances, ledgers, bank reconciliation statements, and cash flow schedules easier, faster, and with fewer or no errors. It also decreases accountants' working hours (Mirriahi et al., 2015). According to previous studies by Jain (2021), the use of ICT in accounting education has the potential to improve student results.

It increases their motivation to solve financial problems and prepares students for the workplace (Lawrence, 2013; Merkulova et al., 2018). Furthermore, incorporating ICT into accounting classes would significantly contribute to the development of technical competencies and accounting concepts, issues, and ideas in the classroom (Naidoo, 2020). Although the Curriculum Assessment Policy Statement (CAPS) in South Africa has numerous accounting principles that allow for the use of ICT in accounting education, such as online digital media,

digital "smart" boards, and projectors, Unfortunately, many secondary schools, particularly in the iLembe District, have not used ICT to teach accounting in the classroom.

As a result, according to Whiteside (2011), learners in South Africa have limited exposure to ICT, with a concentration on accounting software. This is why, according to Siemens et al., (2015) and Gebremeskel (2016), there is still a lack of ICT-compliant accountants in South Africa, as the bulk of accountants is imported from neighbouring countries such as Zimbabwe and Ghana. As a result, it has become critical for accounting educators to investigate the impact of ICT on accounting education and practice. Mbebe (2017) further stated that a reluctance to integrate ICT in secondary school teaching and learning accounts might have severe consequences not only for students' academic results but also for the country's overall economic growth.

Simon & Ngololo (2018), posited that in the accounting profession, there has been relatively little study on the impact of ICT on secondary school accounting teaching. Otherwise, ICT expands the possibilities for organizing knowledge about teaching activities by allowing learning cognitive activities to be delivered anywhere, at any time. (Lawrence & Tar, 2018); improving chances for active learning, interconnection, and feedback; strengthening desire to learn (Madida, Rugbeer & Naidoo, 2019). ICT has the ability to accelerate, enhance, and deepen abilities, as well as inspire and engage students in learning, according to Yusuf (2015a).

According to Okolie & Arowoshegbe (2014), information and communication technology (ICT) aids in the linkage of school experiences to work practices, contributes to radical transformations in schools, and allows for connections between the school and the real world. The advent of the Fourth Industrial Revolution has given prominence to ICT in the education sector. The education system has witnessed a global transformation of learning technologies as global waves in teaching and learning and has made information accessible to learners. As a result of the development and acceptance of ICT, teaching and learning can become more efficient and productive, resulting in a variety of tools to enhance and facilitate professional activities (Kristen, 2009); provide new types of instructional opportunities; and improve the knowledge and learning experiences of both teachers and learners (Ezeani & Chukwunwendu, 2014).

In the iLembe District, however, there has been little research on the use of ICT in accounting education in secondary schools. As a result, the goal of this research is to look into the influence of ICT in secondary schools in the iLembe District of KwaZulu-Natal on accounting and learning. Similarly, numerous previous studies have looked at the impact of ICT in the classroom for subjects such as Mathematics, Biology, English language, and Life Orientation, to name a few, with little or no focus on accounting. Despite their familiarity with various gadgets, learners who are not used to using ICT in accounting study may find themselves unemployed. The United Nations and the World Bank affirmed that information and communication technologies (ICTs) can improve learners' and instructors' access to educational networks and expand the availability of high-quality educational materials in rising global economies.

However, with the emergence of the COVID-19 pandemic that ravaged the global world, face-to-face classroom teaching became impossible; online teaching and learning became the global order of the day in educational institutions. This further ascertains the significance of ICT in teaching and learning accounting in high schools, especially in developing South Africa. Extant literature revealed that many researchers have conducted diverse studies on the factors affecting the use of ICT generally in schools and the challenges of ICT infrastructure in different African schools. Despite the South African government's massive investment in ICT equipment in schools, most accounting instructors in iLembe District, KwaZulu-Natal, are hesitant to use ICT facilities to teach accounting (Terry, 2014).

### **3 Theoretical Framework**

To understand the impact of Information and Communication Technology in the teaching and learning of accounting in high schools, the study adopts two theories as frameworks for this study. The theories provide clear understanding and impact of ICT in teaching Accounting in South African schools. The theories are also contextualised to how ICT can be used to enhance teaching and learning of accounting in schools. Padayachee (2017) avers that the use of theory in any research study is an important component that drives appropriateness of the research by the researchers. Hence, theories of (i) the Diffusion of Innovation Theory, (ii) the Technological Pedagogical Content Knowledge (TPACK) framework have been used to view the effect of ICT in teaching accounting in secondary schools.

#### **3.1. Diffusion of Innovation Theory (DOI)**

Diffusion of Innovation was propounded and established by Everret Rogers in 1962, as a general diffusion model. Various researchers had conducted various studies in different disciplines before then between 1940s and 1950s to understand how innovation diffuse. However, Roger's (1962)'s DOI Innovation's diffusion was able to describe clearly how an idea or an innovation is accepted and adopted among a group of people. Rogers used the

word technology and innovation interchangeably because most of the diffusion studies often involve technological innovations. Conversely, Gikenye (2012) noted that an innovative idea could be in the form of a technological technique, or an idea communicated to a group of people in a social system. The theory explains how an idea or a newly developed product or an idea attains momentum and spreads among a population. The endpoint of this diffusion is that the person adopts a new idea or product and a new behaviour.

Hence, when a user performs an activity or does things differently from a previous behaviour is referred to as adoption. It is important to note that a person must perceive idea or product as an innovation and thus making the diffusion. This implies that the adoption and use of ICT in teaching accounting in schools will lead to a change in behavior of the users (teachers) and will definitely impact the learners. Rogers (2003a) identified five important characteristics of DOI that can lead to its adoption and how diffusion can be influenced. These characteristics are the tenets of DOI, they are: Relative Advantage, Compatibility, Observability, Trialability and Complexity. According to Rogers, fast adoption of an innovation greatly depends on the benefits it possesses and the ease of adoption.

Although, he also avers that getting a new innovation adopted, when a user finds it suitable, it is sometimes difficult for it to spread and in some cases, it takes some time and in some other cases, years from the time of it has been made available for use. Hence, the adoption of ICT among accounting teachers may take some time before ICT is fully integrated into their daily classroom teaching. Teachers who adopt an innovation early exhibits different characteristics than the teachers who adopt the same innovation at a later stage. This implies that it is necessary to have a clear understanding of the target population so that the adoption can be influenced.

In addition to the aforementioned five characteristics of innovation, Rogers (2003b), highlights four important factors that can also influence diffusion of innovation. These factors include the innovation itself, how detailed information regarding the innovation is communicated, time and the nature of the social system where the innovation is being introduced. These factors can influence the use of ICT among Accounting teachers and can invariable have effects on the teaching and learning of the subject in schools. Also, Roger's Diffusion of Innovation theory categories the adopters of innovation into five. They are the innovators, early adopters, early majority, late Majority and the laggards.

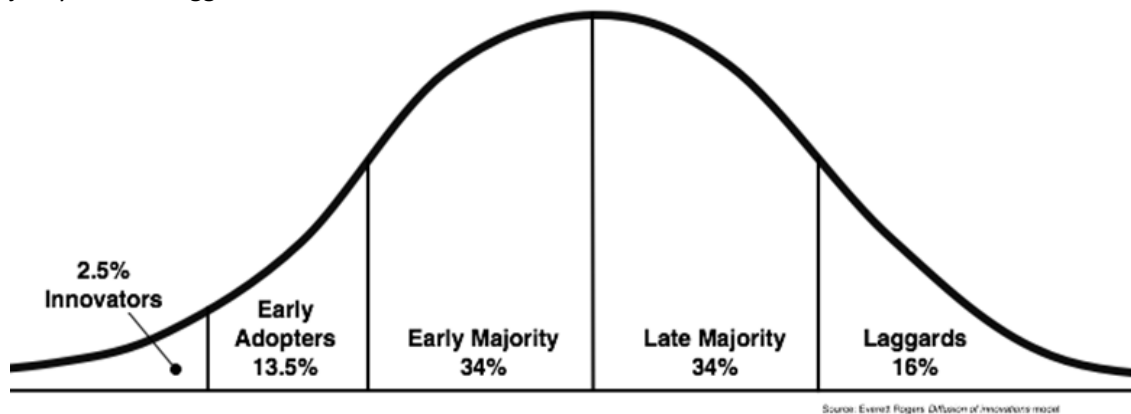


FIGURE 2.1: (SOURCE: [HTTP://BLOG.LEANMONITOR.COM/EARLY-ADOPTERS-ALLIES-LAUNCHING-PRODUCT/](http://blog.leanmonitor.com/early-adopters-allies-launching-product/))

From the figure above, the majority of the adopters of technology fall into the middle category. However, it is imperative to understand that during the promotion of innovation, different strategies are necessary to be employed by accounting teachers in order to appeal to different accounting learners and topics. The decision to adopt an innovation can be made individually or collectively, as a group or an authority based. The rationale for this theory in this study is its ability to provide accounting teachers with individual factors and organizational factors that can hinder or promote the adoption of ICT in the teaching of the subjects in schools.

It analyses the basic components of technological innovations, the adoption and diffusion; and how it can be integrated into classroom practices (Migiro and Ocholla, 2005). Also, this theory has been applied severally in different situations and settings that involved the acceptance of ICT innovations (Harris & Kingston, 2015). DOI theory also recognizes the very slow technology diffusion rate in some situations and that makes it relevant to this study because it explains that even though the technology is new and provides great potential benefits, quick adoption over the norm is guaranteed. Hence, this study adopts DOI as one of the theories to answer the research questions.

Although, DOI theory emphasises the acceptance, adoption and integration of ICT skills in teaching and learning, in this case, ICTs in teaching accounting with a focus on only the teachers without considering the learners. This has created a huge gap in the theory, and in complementing this shortcoming the Technological Pedagogical Content Knowledge was adopted since it centres on both teachers and learning. This study, therefore, argued that the effective application of ICT in every sector, can only be assured through adequate coverage of needed areas, as it identified gaps that can be filled through the stakeholders/actors such as the teacher and managers of education. It was indicated that the effective adoption of ICT education in teaching accounting subjects at the ILembe District can be realised by schools that accommodate the effective use of ICT. ILembe secondary school facilities accommodate the use of ICT facilities with ease to use for accounting by teachers, who use it in their teaching to stimulate the interest of their learners.

#### 4 Research Methodology

The study is qualitative in nature and data was collected through a semi-structured interview. Data were collected from ten accounting teachers through semi-structured telephonic interviews due to COVID-19 safety precautions. Responses to the interview guide were recorded and analysed through thematic analysis to determine the similarities and differences in terms of their responses. This method assisted in collecting information which was fundamentally involved in engaging individuals in an informal discussion. The use of an interview guide was focused on the phenomenon. Findings show that there is a critical need for professional development of teachers, on the use of ICT appropriately in schools with the provision of computers and laptops for every learner in rural schools, as their parents cannot afford them.

#### 5 Data Presentation and Discussion of Findings

The findings of the study are presented using themes.

**Table 1: Themes from data collection**

Research objectives	Themes from data analysis
a. Determine the impact of ICT in teaching accounting in secondary schools at the iLembe District.	<ul style="list-style-type: none"> <li>• The concept of ICT in accounting.</li> <li>• Incorporation of information and communication technology (ICT) into accounting education.</li> <li>• The significance of ICT in education.</li> <li>• Teachers' ICT's skills.</li> </ul>
b. Examine ICT competency of accounting teachers in the secondary schools at the iLembe District.	<ul style="list-style-type: none"> <li>• Factors influencing ICT's integration into accounting education.</li> <li>• The enablers for ICT in teaching.</li> <li>• Limitations of ICT in teaching accounting.</li> <li>• Barriers to ICT's adoption into teaching.</li> </ul>
c. Identify ICT strategies accounting instruction at secondary schools in the iLembe District.	<ul style="list-style-type: none"> <li>• Strategies to enhance ICT's adoption into teaching.</li> <li>• Support from the Department of Education.</li> </ul>

Findings from the semi-structured interviews are presented in this section. Teachers' semi-structured interview guide was used as the instrument to collect data on the three research questions for this study as indicated in **Table 1**. Data was sourced from the teachers who were teaching accounting in ten different high schools. The data collected from these ten participants were carefully analysed and systematically presented by identifying appropriate themes that provide answers to the research questions. Thematic coding, a common technique for a qualitative study, was employed to systematically analyse the qualitative data (Cohen, Manion and Morrison, 2010). This refers to thematic coding of transcripts for comparisons of responses, to generate emerging codes from the collected data, without any pre-set theory or structure, preference. This technique can produce rich and in-depth data descriptions as its qualitative data characteristics (Basset, Gunasekar, Mai, & Ehab, 2018).

Verbatim transcriptions of all audio-recorded interviews were carefully done by the researcher, followed by coding significant and similar data into themes. Verbatim excerpts were included as evidence of participants' responses from the conducted interviews. The responses were carefully grouped into ten key themes grounded on the interpretive paradigm to present original and systematic explanations. These generated themes were situated within the research objectives. These themes are:

- The concept of ICT in accounting.
- Integration of ICT into the teaching of accounting.

- The importance of ICT in teaching.
- Teachers' ICT's skills.
- Factors influencing ICT's integration into the teaching of accounting.
- The enablers for ICT in teaching.
- Limitations of ICT in teaching accounting.
- Barriers to ICT's adoption into teaching.
- Strategies to enhance ICT's adoption into teaching.
- Support from the Department of Education.

## 6 Discussion of The Thematic Findings

A discussion of the ten themes from the semi-structured interviews are presented below. Themes were first presented, with findings from each theme offered, interpreted, and related to the study and extant literature. Extractions of the verbatim quotations from the data were indicated with pseudonyms to protect the identity of the participants: teachers 1-10 (T1, T2, T3, T4, T5, T6, T7, T8, T9, T10).

### 6.1 The concept of ICT in accounting

Participants' views on what they understood by the concept of ICT in teaching accounting to enhance the subject were sought. Different findings indicated that the participants understand the concept of ICT in the education system. The participants expressed their views on what ICT meant to them. Though, some indicated they were not using ICT for some reasons. Participant T1 expressed:

*"ICT is to inculcate skills and to communicate with others in the teaching of the subject. It is also useful for research in accounting. We must move in that direction of the Fourth Industrial Revolution to prepare our learners for the future. It is very important to integrate ICT into accounting". (T1)*

While another participant declared ICT irreplaceable in teaching and learning:

*"ICT adoption means that in teaching and learning, ICT plays an irreplaceable role that teachers cannot play". (T2)*

ICT is to teach kids to understand, as expressed by Participant T4:

*"I understand it as a way of teaching kids to understand technology or the way to use technology in teaching. The government should endeavour to buy those gadgets such as computer, cellphones and others. So that they understand the use of ICT". (T4)*

Other expressions by the participants asserted that they understood ICT in teaching and learning as they used it in teaching:

*"It makes our learners more in line with the system that is being introduced. The learners are being introduced to the new world they are grown into. Now, we are in the Fourth Industrial Revolution". (T9)*

Participant T10 agreed that it is to make teaching easy:

*"Yes, we are using it. Most things are done with computers now. So, it's easy using the computer to teach. We are adapting to the new technology".*

Participant T6 in his own words:

*"Well, I understand that the use of ICT in school, is accepting laptops, projectors, video, uploading such things. Integrating it into teaching means involving it in our teaching methods".*

Dube, Nhamo & Magonde (2018) establish that it is important to integrate ICT into teaching and learning in schools, according to Oke and Fernandes (2020) will provide learners with the opportunities to access information extensively on any subject, and will expose them to the Fourth Industrial Revolution(4IR) where everything is done with technologies. Oke and Fernandes (2020) justify the use of ICT in the school system as a global norm. Simon and Ngololo (2018) suggest that more learning technologies should be integrated and made available in curriculum delivery.

The adoption of ICT into the teaching of accounting requires frequent and appropriate ICT training for the teachers through their professional development (Dlamini and Mbatha, 2018). Chisango and Lesame (2019) opine that teachers need to be provided with a frequent update on expertise, knowledge and necessary specialized ICT skills that can facilitate effective integration of ICT into teaching and learning and can improve on the adoption through continuous and frequent training. Furthermore, Ojo and Adu (2018), Madoda and Chigona (2019) advocate for the provision of ICT resources to all schools and frequent and necessary professional development of teachers for effective utilization of ICT resources in teaching and learning.

From the findings, participants understood that ICT is significant in teaching and learning. This supports both DOI and TPACK theories that teachers need to understand the need for ICT in teaching and learning clearly, for them to adopt and use ICT effectively in their classroom practices regularly and appropriately (Rogers, 1962, 2003;

Mishra and Koehler, 2006). Teachers need to be capacitated to adopt ICT into their classroom practice. Therefore, attending frequent In-service Professional Development (IPD) activities may promote classroom practices in both countries as teachers will be intrinsically motivated to attend frequently.

### 6.2 Integration of ICT into the teaching of accounting

Teachers' ability to integrate ICT into teaching and learning accounting in the participating schools was displayed in the participants' responses. Various ICT resources can be adopted into the teaching and learning of accounting. The participants were divided on the use of ICT in their schools, with some using ICT and some not using ICT in teaching and learning accounting. It was revealed that teachers' integration of ICT into classroom practices are influenced by many reasons. Participant T9 highlighted in his views that he used ICT for his classroom practices:

*"Yes, I use it in my school. It makes my work a lot easier. I use it to make learnings easier for my learners. Learners also use the social network to communicate with me for more clarity".*

Participant T1 concurred that the 21<sup>st</sup> century necessitates teachers to blend learning:

*"Yes, I use ICT in class. We are in the 21<sup>st</sup> century. It is important because it makes teaching easier in accounting. Because I believe it makes the learners visualize learning".*

Similarly, Participant T5 echoed the same on the use of ICT in teaching accounting in school:

*"Yes, it makes teaching more easier. It reduces the time. It makes teaching more positive. Learners are happy using it".*

Another participant affirmed that she used ICT in teaching accounting to adapt to technology:

*"Yes, we are using it. Most things are done with computers now, so, it's easy using the computer to teach. We are adapting to the new technology" (T10).*

While some participants indicated that they were not using ICT to teach accounting because they had no skills to do so, or the schools did not have ICT resources they could integrate into their teaching:

*"I am not using the ICT, the reason being that I am not familiar with them. I have never seen them. Maybe, if I am familiar with them or trained I can use them" (T2).*

Another had this to say:

*"I am not using ICT in my school. I am working in a deep rural school. We don't have the facilities for that in this school. I was using in the former school" (T4).*

The same view was shared by these participants:

*"No, I am not using it. My school is located in the rural area" (T8).*

*"No, we are not using it. We are in a deep rural school. So, we don't have the resources" (T7).*

*"No, I do not use ICT in my school. ICT requires resources such as laptops, and computers. My school is a rural school. So, it's difficult for me to use ICT in teaching" (T6).*

The findings revealed that most rural schools are not using ICT to teach accounting for several reasons. Using ICT in teaching and learning is beneficial to both schools and learners (Adarkwah, 2021). According to Mwapwele, Marais, Dlamini and Van Biljon (2019), the adoption of ICT into teaching and learning in schools enables concrete learning and arouses learners' interest to learn. This implies that the adoption of ICT into teaching and learning accounting can enhance learners' academic performance and also make curriculum delivery less stressful. However, Dlamini and Mbatha (2018) affirm that only teachers who possess ICT knowledge and skills can in a real sense integrate ICT successfully into their classroom practices. A similar opinion was shared by Ruxwama and Msibi (2018) that possession of the right ICT skills enables adequate and appropriate use of various ICT resources to deliver learning experiences to the learners.

Hence, Strydom (2015). asserts that teachers need to be grounded in computer knowledge and skills to impact teaching and learning. The DOI theory stipulates that computer users must have the needed know-how of the innovation to appropriately integrate it into teaching and learning (Migro and Ocholla, 2005). Conversely, Munyengabe, Yiyi, Haiyan and Hitimana (2017) encourage all teachers to be trained on existing learning technologies that can be used to enhance teaching and learning of all subjects. Therefore, Aydin and Gurol (2019) argue that in-service training/workshops for teachers should be designed to provide them with opportunities to integrate ICT into their lesson delivery.

### 6.3 The importance of ICT in teaching

The study explored the views of the teachers on the importance of existing ICT resources on teaching and learning accounting. The appropriateness of these ICT resources to classroom practices, and how the peculiarities of schools influenced the importance of ICT in teaching accounting in different schools. The participants expressed different views on the importance of ICT in schools.

Participant T10 expressed the significant importance of ICT.

*"It simplifies accounting in the working sector, therefore, it is used to equip the learners in learning accounting"*. (T10)

Another participant suggested that schools should embrace ICT to shift from a traditional teaching approach to a blended one. This according to her will be beneficial to their classroom practices:

*"Writing on the chalkboard waste a lot of time, while waiting for learners to finish writing. Using ICT, I present PowerPoint for learners to read from slides. You can teach many topics, using the slides in a short time. It is important to use ICT as it minimizes waste of time in writing on the chalkboard"* (T9).

While another teacher affirmed that ICT integration creates and enhances good interactions between teachers and learners.

*"It makes positive interactions between the teachers and the learners. It makes learners active in classes"* (T5).

*"It brings inclusion to school. So, as you know I am a teacher at a special school. ICT provides opportunities to our learners who need attention. ICT allows us to provide support to teaching and learning. It encourages collaboration among learners. It motivates and connects the learners to so many educative sites where they can learn. It promotes learning retention. We all know that when you use ICT, learners like technology a lot"* (T3).

*"There are many things that can be done on computers for accounting. We use it to expose the learners to so many things in the exams. It saves time. We use excel to teach learners some accounting concepts"* (T1).

Significantly, one of the participants identified the need for ICT as an avenue to expose the learners to the Fourth Industrial Revolution:

*"It is important in teaching and learning. We are in the Fourth Industrial Revolution. So, we are trying to integrate the learners into technology. The kids need to explore technology so that whenever they have the opportunity they use it"* (T4).

*"ICT has the features of innovative development for learners. It improves teaching skills and classroom development"* (T7).

While another participant maintained the importance of ICT is critical to learners:

*"Using ICT is very important. It makes the learners to be introduced and equipped to the modern trend of technology. It motivates them and makes learning fun at the same time. It allows our learners to fit into the technology revolution. Making learning to be interesting and funny to the learners"* (T6).

Findings revealed that the use of ICT in teaching and learning accounting is helpful to attain learning goals. The participants appreciated the crucial role of ICT in teaching and learning accounting. This, teachers appreciate that learners must be engaged with ICT in teaching and learning accounting. Ruxwana & Msibi (2018), opines that the emergence of learning technologies in teaching and learning has enhanced learners' participation in the learning process. Similarly, Mutsure (2019) concurs with Rogers' (1962) principles of the Diffusion of Innovation theory that learners' motivation to accept and use ICT in teaching is driven by clarity on learning experiences provided through ICT.

Hence, Naidoo, Madida and Rugbeer (2019) assert that learning can be made effective through ICT for concrete classroom experiences. This explains why teachers need to be assisted on how to enhance their teaching methodology and subject-content delivery (Jita & Mokhele, 2014). This will enable the teaching of accounting content in more effective ways in the classrooms. It will also save time during the delivery of lessons since ICT will enable the learners to be provided with adequate information and experiences in accounting.

## **7 Conclusion and Recommendation**

Teachers' adoption and integration of ICT in teaching and learning of ICT in schools was the focus of this study. Findings from this critical study revealed that ICT' adoption is not only a trend of 4IR but also a global trend that is critical to learners for global relevance. The emergence of the COVID-19 pandemic in the global world which led the education system to a "new normal" of online learning indicates the significance of ICT in teaching and learning accounting. Teachers' adequate knowledge and skills of ICT are the salient motivation for the adoption of ICT into their classroom practices.

Furthermore, the availability of ICT resources such as desktop/laptop computers, internet connectivity, electricity, computer laboratories, learning software and others are enabling factors for the adoption and integration of ICT in teaching accounting. While absence or inadequate resources can serve as barriers to the use of ICT in schools. The adoption of ICT in teaching and learning can enhance teachers' productivity as well as promote learners' academic performance in the subject. The adoption of ICT makes learning to be concrete and not abstract, motivates or arouses learners' interest, makes learners be engaged and promotes self-paced learning amongst learners for further learning.



The study presents significant contributions to the South African education system that the stakeholders can adopt to enhance the quality of teaching and learning in the education system. The insightful summary of this study situates significant recommendations within the findings to provide effective strategies for the adoption and integration of ICT in the teaching of accounting. The recommendations are invaluable to the school management team members, teachers, policymakers and other stakeholders in the system, to strengthen, improve and restructure teachers' adoption and integration of ICT. Findings highlighted the urgent needs to capacitate teachers for the ICT adoption and integration in the classroom and learning of accounting in schools in South Africa.

- There is an extant gap in the literature on the adoption of ICT in teaching accounting in South African schools. Thus, more studies on teachers' adoption and integration of ICT in classroom practices need to be conducted to improve teachers.
- Restructuring of teachers' in-service professional development activities and policies is necessary to enhance maximum use of ICT for effective classroom practices. Professional development should be contextualized to enhance productivity in schools.
- Stakeholders in the education system should be more concerned with the enhancement of teaching and learning with ICT as a common goal, for the improvement of the system. Teachers should be motivated to participate in various IPD activities on a yearly regular basis at close intervals.

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