Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools

by

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Declaration of Originality

I, Sifiso Mngadi (student number (17323208), hereby declare that this dissertation, entitled: “Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools” has not previously been submitted by me for a degree at the University of Pretoria or any other university; that this is my own work in design and execution and that all material from published sources contained herein has been duly acknowledged.

Signed at University of Pretoria on 15 November 2024.

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Ethics Statement

I maintained the highest ethical standards in this dissertation. The author, whose name appears on the title page, has obtained the applicable research ethics approval for the research described in this work. I declare that I have observed the ethical standards required by the University of Pretoria's Code of Ethics for researchers and the Policy Guidelines Responsible for Research.

Dedication

I dedicate this thesis to Me, for all the late nights and early mornings, the moments of doubt turned into determination. This journey hasn't always been easy, but each challenge has shaped who I am today. I dedicate this work to my perseverance, my growth, and the belief that I can achieve anything. Here's to the future, filled with endless possibilities and new adventures.

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ABSTRACT

Technology is always evolving, and these advancements have a variety of effects on social life. As technology advances, new demands in the teaching and learning environments arise, prompting teachers to make active use of technology. With a particular focus on two schools in Gauteng, Soshanguve, this qualitative study explored the attitudes of teachers towards the use of Information and Communication Technology (ICT) in Business Studies classrooms. The study involves five schools in Soshanguve, all the schools have laptops and smartboards for Business Studies learning. The aim of this study was to comprehend how teachers see and make use of these technological tools. The study investigated the variables influencing teachers' acceptance and use of ICT tools in their teaching methods, with a focus on the Technology Acceptance Model (TAM). Using a qualitative approach, information was gathered via observations and semi-structured interviews with teachers to learn more about their attitudes, experiences and problems integrating ICT into Business Studies instruction. This study fills a significant vacuum in the literature on the use of ICT in underfunded educational environments by concentrating on township schools. The findings showed that, while Business Studies teachers recognised the benefits of ICTs, they prefer conventional teaching techniques and use ICTs primarily as additional tools. Teachers were wary of technology owing to worries about diversions, technical challenges, and uneven access to resources. They observed that ICTs need additional planning and time, which leads to hesitation in complete integration.

Keywords: Attitudes, Business Studies, Information and Communication Technology, Qualitative, Technology Acceptance Model

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To whom it may concern,

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List of Abbreviations

DBE	Department of Basic Education
ICT	Information Communication Technology
PCK	Pedagogical Content Knowledge
PD	Professional Development
PEOU	Perceived ease of use
PU	Perceived utility
SDG	Sustainable Development Goals
TAM	Technology Acceptance Model
TPACK	Technological Pedagogical Content Knowledge
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IICBA	United Nations Educational, Scientific and Cultural Organization International Institute for Capacity Building in Africa
ZPD	The zone of proximal development

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Chapter 1: Orientation of the study

In Chapter 1, I provide a complete overview of the current study, which investigates teachers' attitudes on the use of ICTs in the classroom. This chapter sets the stage by presenting the contextual information required to comprehend the educational environment, particularly in underserved settings such as South African township schools. By outlining the distinct obstacles and possibilities that teachers encounter, I emphasise the need of investigating how these characteristics impact teachers' perspectives and involvement with ICT tools. This backdrop not only contextualises the research, but also underscores its importance in today's technologically driven educational environment. I also explain the study's rationale and purpose, highlighting why researching teachers' attitudes regarding ICT is critical for enhancing educational practices. This section highlights a deficiency in current literature, namely in the Business Studies curriculum, and explains how this study intends to fill that gap. In addition, I provide the core research questions that will guide the study, which are concerned with the perceived benefits and problems of ICT integration in the classroom. Finally, the chapter clarifies concepts by defining crucial phrases to establish a common understanding as the study advances. This foundational work provides a clear framework for the research, preparing the reader for the next chapters, which will dive further into the study's results and consequences.

1.1 Introduction

The way in which subjects are taught and learned has changed dramatically as a result of the integration of ICTs in education, especially in subjects like Business Studies (Haleem et al., 2022). Teachers must integrate ICTs into their lesson plans as the commercial world grows more and more dependent on technology (Munje & Jita, 2020). This integration improves education while preparing learners for a workforce that requires technical competence. However, teachers' attitudes about these technologies have a major role on how well ICT is implemented, thus it is important to understand their perspectives and experiences. The way learners interact with ICTs is greatly influenced by their teachers (Munje & Jita, 2020). The way that technology is used in the classroom may be significantly impacted by their attitudes (Munje & Jita, 2020). While negative views might obstruct the efficient use of technology, positive opinions can inspire creative teaching strategies and higher engagement among learners (Thimotheou et al., 2023). Thus, investigating the elements that influence these perspectives, like training, individual technological experiences and perceived curricular relevance can offer important insights into the obstacles and possibilities of ICT integration in Business Studies. Even though it is well acknowledged that ICT plays a significant role in

contemporary education, little research has been done specifically to examine how Business Studies teachers feel about employing technology. The existing literature frequently discusses generic attitudes towards different disciplines, but it neglects to take into consideration the particular environment and needs of Business Studies (Haleem et al., 2022). By investigating how Business Studies teachers see and use ICTs, this research seeks to close this knowledge gap and advance to a more sophisticated understanding of technology's application in this particular discipline. Furthermore, the necessity for professional growth in ICT skills grows more pressing as the educational scene changes. It is possible that a lot of teachers are reluctant to adopt new technology because they believe they are not ready to use them in the classroom. Through examining the attitudes of Business Studies teachers, this research will pinpoint the assistance and materials required to cultivate a more holistic perspective towards ICT integration, therefore augmenting the efficiency of instruction and improving the academic achievements of learners.

1.2 Background/context

Technology is always evolving, and these advancements have a variety of effects on social life. The swift progress of technology brings about transformations in various domains, including healthcare, business, and education. As technology advances, new demands in teaching and learning environments arise, prompting teachers to make active use of technology (Ghavifekr & Rosdy, 2015). Current developments in technology influence the education and skills that individuals in the information society need to effectively navigate the technological environment and benefit from technology (Durak & Seferogṇlu, 2017). One of the most crucial requirements in education is for teachers to acquire the necessary technology usage skills to stay up to date with these changes (Yılmaz, 2016). Along with advancements in technology, modifications in the educational system also require adjustments to teaching and learning activities. Technology use continues to grow, especially in secondary and higher education institutions (Yılmaz, 2016).

ICT has been an integral part of education and in many cases, the preferred mode of communication with people from all walks of life (Coiro et al., 2014). Many countries recognise that critical comprehension of ICT, as well as understanding of ICT skills and concepts, are as vital as reading and writing (Skovsmose, 2013; Coiro et al., 2014; Barış, 2015). It is widely assumed that ICT is transforming the educational system, resulting in the modernisation of teaching and learning (Molto Egea, 2014). ICT includes networks, software and media used for data processing, speech, text, picture and storage as well as information transmission and display (Mathevula & Uwizeyimane, 2014). The prevalence of a diverse range of ICTs implies

that ICTs extend well beyond computers, the internet and telephones (Mathevula & Uwizeyimane, 2014).

ICT has grown more and more important in education in the digital era, especially in fields like Business Studies. Teachers must meet the challenge of providing learners with the skills they need to succeed in a technologically advanced world while businesses adapt and embrace digital transformation (Haleem et al., 2022). Fostering pertinent skills, raising engagement among learners and preparing learners for the complexity of contemporary business practices all depend on the successful integration of ICTs into Business Studies classes (Haleem et al., 2022). Nonetheless, teachers' attitudes towards these technologies frequently determine how well this integration goes. According to research, teachers' attitudes have a big influence on whether or not they are willing to accept and use ICTs in the classroom (Haleem et al., 2022; Mathevula & Uwizeyimane, 2014). Positive attitudes may lead to new teaching approaches and enhanced learner enthusiasm, whereas negative attitudes may result in resistance to change and limited use of existing resources. The perceived importance of ICTs to the subject matter, professional development opportunities and individual technological experiences, all have an influence on these attitudes. Comprehending these aspects is essential to developing a learning environment that optimises the advantages of technology (Haleem et al., 2022).

Even while ICT integration in education is acknowledged to be important, there is still a significant lack of empirical research that focuses on the views of Business Studies teachers (Yılmaz, 2016). While many topics have been studied in the past, Business Studies presents particular opportunities and challenges that are sometimes overlooked (Tondeur et al., 2016). A key challenge is the effective integration of ICT tools, as some teachers may lack sufficient training or confidence in using technology for business-related subjects (Albion et al., 2015). Additionally, access to reliable digital resources and real-world business simulations can be limited in certain educational settings. However, ICT also presents opportunities, such as enhancing learners' digital literacy, improving engagement through interactive content, and better preparing learners for modern business environments that increasingly rely on technology (Tondeur et al., 2016). By offering a thorough investigation of how teachers in this field see the use of ICTs, this research seeks to close this gap and add to the growing body of knowledge on the subject of technology integration in the classroom. Given how quickly technology is developing, numerous teachers could feel overwhelmed and unsure of how best to use these resources in their classrooms (Albion et al., 2015). This research looks at the attitudes Business Studies teachers have towards ICTs as well as the elements that support their competency and self-assurance in using them. This research helps build strategies for improving professional growth and support systems by identifying obstacles. The ultimate goal of the results of this research is to give educational stakeholders such as administrators,

legislators and teacher preparation programs actionable insights. Through an awareness of the underlying elements that influence teachers' attitudes, stakeholders may create focused interventions that facilitate the successful integration of ICT in Business Studies education. In addition to enhancing instructional strategies, this will enhance the educational experiences of learners and position them for success in the increasingly digital future.

This study focuses on five township schools in Soshanguve, Gauteng, with a particular emphasis on Business Studies teachers. Across these schools, there are a total of twenty one Business Studies teachers, each responsible for teaching learners in Grades 10-12 (aged between 13-19 years). These schools frequently confront specific problems in ICT integration, such as limited resources, unreliable internet connectivity, and variable levels of digital literacy among teachers and learners. Despite these limitations, these five schools have smartboards in Business Studies classrooms and supply computers to Business Studies teachers, making them suitable venues for investigating the practical application of ICT in education. ICT tools in education could be used to develop critical thinking and reading abilities, as well as to assess the legitimacy and accuracy of online material (Naresh, 2020). Information skills and technology adoption skills are the two most critical abilities to include in a list of 21st century life skills. To prepare our children for a world dominated by technology, we must modify the way we teach them.

1.3 Rationale

The integration of ICT in education has been widely recognised as a means to enhance teaching and learning. However, research suggests that teachers' attitudes towards ICT play a crucial role in determining whether these technologies are effectively implemented in the classroom (Drossel et al., 2017). While Business Studies as a subject benefits greatly from digital tools such as smartboards, projectors, and laptops, teachers' willingness and ability to use these tools can vary widely. Some educators embrace ICT, while others remain hesitant or resistant (Raheim, 2020).

My own experience as a Business Studies teacher has highlighted this divide. Since entering the teaching profession in 2021, I have actively used ICT tools in my lessons and have encouraged my colleagues to do the same. While many teachers have adopted these technologies, some still rely on traditional "talk and chalk" methods. This observation has led me to question what influences teachers' attitudes towards ICT and why some are more receptive than others.

The literature indicates that ICT integration is often hindered by factors such as limited access to resources, lack of training, and teachers' personal beliefs about technology’s effectiveness

(Noor-Ul-Amin, 2013; Schindler et al., 2017). Despite the recognised benefits of ICT in Business Studies such as increased learner engagement and improved learning outcomes there remains a gap in understanding how Business Studies teachers in township schools perceive and use technology (Mwapwele et al., 2019). Existing studies have largely focused on ICT in general education but have not specifically addressed Business Studies, which presents unique opportunities and challenges (Tondeur et al., 2016).

This study seeks to fill this gap by investigating the attitudes of Business Studies teachers towards ICT integration in township schools. By examining the factors that influence their perceptions, this research might provide valuable insights that can inform policy, improve teacher training programs, and enhance Business Studies education. Ultimately, the findings will contribute to the development of targeted interventions aimed at fostering positive attitudes towards ICT, ensuring that both teachers and learners are equipped to succeed in an increasingly digital world.

1.4 Problem statement

Technology is recognised as a potent instrument that may aid in changing the way that education is provided (Chigona et al., 2014). However, there are a number of obstacles in the way technology is adapted in the educational sector. The most often mentioned reason for the lack of technology adoption is a lack of professional development. Research indicates that teachers who participate in technology-related professional development (in-service training) have favourable perspectives on using technology in their classrooms (Wannas et al., 2022). Teachers' unfavourable attitudes against technology (including their nervousness) is another factor in the lack of technology adoption (Gleeson & Davison, 2016; Park & Son, 2022). The use of technology in Business Studies instruction is influenced by technology phobia. To comprehend teaching methods, one needs to investigate teachers' attitudes, which are thought to be indicators of various actions in the classroom (Alemu, 2015). These difficulties might be caused by a lack of technical expertise, a lack of opportunity for professional growth and restricted access to resources.

1.5 Research questions

Primary research question:

What are Business Studies teachers’ attitudes towards ICT use in the classroom?

Secondary research questions:

a) What are the external factors (challenges and benefits) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?
b) How easy to use and useful do Business Studies teachers find ICTs to use?
c) How do Business Studies teachers' attitudes influence teaching and learning with ICTs in their subject?
d) How do teachers incorporate ICTs in the teaching of Business Studies?

1.6 Purpose of the study

The primary purpose of this research is to investigate and evaluate the attitudes of teachers about the integration of ICTs into Business Studies classes. Knowing these attitudes is crucial to figuring out how teachers view technology's place in the classroom and how it affects the way learners learn. The study also focuses on examining the particular difficulties and obstacles teachers have when attempting to integrate ICTs into Business Studies. These difficulties might be caused by a lack of technical expertise, a lack of opportunity for professional growth and restricted access to resources. The study aims to identify these obstacles in order to point out places that assistance and training may be enhanced, which will eventually result in more efficient use of technology in the classroom. This study also aims to investigate the link that exists between the attitudes of teachers and their actual ICT integration practices. Although more technology use is frequently linked to positive attitudes, there may be more to this relationship than meets the eye. The research also wants to shed light on the efficacy of the tools and training programs now offered to teachers by examining how attitudes transfer into classroom practices. This analysis will influence future efforts aimed at professional development.

The study also attempts to evaluate how teachers see the application and usefulness of ICTs in Business Studies classes. It might be useful to examine how teachers see the role of technology in connection to the subject matter in order to find areas where teaching tactics and curriculum design are lacking. This evaluation will help provide more pertinent and interesting learning opportunities for learners, bringing educational methods into line with the needs of a corporate world driven by technology.

1.7 Concept clarification

1.7.1. Attitudes

Attitudes refer to mental and emotional entities that characterise a person, their attitude to approach something, or their personal view on it. Attitudes involve their mindset, outlook and feelings (Wannas et al., 2022). A person's psychological inclinations to evaluate it favourably

or unfavourably are referred to as attitudes. Regarding the use of technology in education, teachers' attitudes towards ICTs in the context of this study include their behavioural intentions, sentiments and beliefs. These attitudes can have a big impact on how they integrate ICTs in the classroom and can range from good (excited and supportive) to negative (resistive or suspicious) (Ajzen et al., 2018). A person's attitude is their interpretation and evaluation of something or someone, their tendency or predisposition to respond positively or negatively to a certain idea, object, person or situation. Generally speaking, it falls into three categories: cognitive (perceptions and beliefs), behavioural (actions or declared intents towards the object), and affective (likes and dislikes, sensations, or provoked emotions) (Zhu et al., 2016). This study, refers to teachers' attitudes towards the use of ICTs in the Business Studies classroom.

1.7.2 Information and Communication Technologies (ICTs)

Technology can be defined as the application of scientific knowledge for practical purposes, especially in industry, education, medicine, and daily life. It includes tools, systems, and methods developed to solve problems, improve efficiency, and enhance human capabilities (Chinedu et al., 2015). ICT utilisation transforms the teaching and learning process and builds a strong learning environment where learners approach knowledge in an engaged, autonomous and productive way (Zhu et al., 2016). ICT is seen as more than merely an adjunct to, or a substitute for, traditional educational techniques. ICT is viewed as a crucial tool to enable innovative approaches to teaching and learning. Its purpose should be to help learners enhance their abilities to work together, communicate, solve problems and pursue lifelong learning. The last 20 years have seen tremendous growth in the integration of technology into curricula with the goal of improving teaching and learning (Zhu et al., 2016).

ICTs include a wide range of technologies used in data management, communication and information sharing. This comprises tools that support teaching and learning activities, such as software (educational apps, online resources) and hardware (computers, tablets, projectors). ICTs in Business Studies may improve teaching strategies, allow for interactive learning and get learners ready for a tech-driven workforce. ICTs refer to a collection of tools and technological resources used to alter and correlate information (Kaware & Sain, 2015). For the purpose of the study, ICT tools are a collection of electronic devices and software that facilitate the delivery of Business Studies teaching with the goal of enhancing learners' achievements. These include smartboards, projectors and laptops (Saal et al., 2019).

1.7.3 Business Studies in the South African curriculum

The information, abilities, morals and attitudes needed for ethical, productive and informed involvement in both the formal and informal economies are the main topics of Business Studies (Gcabhashe & Ndlovu, 2022). The course includes business theory, practice and concepts that encourage entrepreneurship, the development of sustainable firms, and economic growth (DBE, 2011). Those pursuing a business studies degree will be equipped with the essential knowledge, abilities and concepts needed to operate economically and efficiently in dynamic corporate settings. Through exchanges and group discussions, learners can uncover new information through the use of modern technologies during the learning process, clearing up any misunderstandings regarding a certain Business Studies idea (Gcabhashe & Ndlovu, 2022).

1.7.4 Professional Development (PD)

This is a reference to the continuous education and training that teachers get in order to advance their expertise. PD with regard to ICTs might involve seminars, classes and cooperative learning opportunities centered on integrating technology into teaching methods. Positive attitudes around ICT use must be fostered, and this requires effective professional development. PD refers to an individual's pursuit of further education and career training to support the development of new skills, adherence to current trends and career promotion (Pitsoe & Letseka, 2014; Rabie, 2016). Attending seminars or leadership classes advances participants' quantitative, analytical and technical skills (Kennedy, 2016). Van der Klink et al. (2017) list case study reviews, coaching and advising, technical help and mentorship as professional development techniques. According to Van der Klink et al. (2017), another definition of teacher competent development is the process by which educators discover underutilised aptitudes and tactics for utilising them to enhance their learners' learning. Furthermore, after entering employment, professional development is the process of acquiring new skills, remaining current with industry trends and expanding one's profession through further education and career planning.

A large number of people fail to invest in their professional growth (Khan & Markauskaite, 2018; Shanafelt et al., 2017). A third of workers say they do not do anything to improve or develop their current skill set; these professionals do not think much about what they want to do for a living (Khan & Markauskaite, 2018; Shanafelt et al., 2017; Sithole et al., 2017). Many others could be as skilled at their jobs, but they either do not care about their future careers or are content with their current status quo (Gamrat et al., 2014). According to these figures, you have already outperformed one-third of your peers by utilising career planning, continual education and professional development (Gamrat et al., 2014; Schaufeli et al., 2017; Sithole

et al., 2017). When someone is driven and takes ownership of their career, they have a far higher chance of succeeding and achieving their goals. The goal of professional development is to give educators the ability to gain and use new perspectives and skills that will help them in their job and as they progress in their careers (Alemu, 2015; Khan & Markauskaite, 2018).

1.8 Research design

This study described the methodologies and techniques used in the study to answer the research questions. It offered a thorough explanation of the decisions taken during the design, implementation, and analysis stages, assuring transparency and repeatability. The study was based on the interpretive paradigm, which emphasizes understanding the world via subjective human experiences, specifically in terms of teachers' views regarding ICT in the classroom. A qualitative approach, namely a case study, was employed to collect detailed information on educators' viewpoints. A purposive sampling technique was used to identify qualified instructors, and data collection included semi-structured interviews, observations, and document analysis to present a full picture of ICT integration. The study's legitimacy and integrity were ensured by prioritising ethical factors such as informed permission, anonymity, and participant autonomy.

1.9 Layout of upcoming chapters

In Chapter 2, I will discuss the available literature on teachers' attitudes towards the use of ICTs, specifically emphasising its application in Business Studies. The literature review started by providing an introduction to what ICTs are, followed by the general use of ICTs. The literature review continued with an in-depth discussion of teachers' attitudes towards the use of ICT tools; pedagogical beliefs held by teachers followed. I further discussed the use of smartboards, laptops and projectors for teaching and learning, challenges of implementing ITCs in the classroom and the ICT tools status available in South African township schools. Lastly, I discussed the theoretical framework underpinning the current study. In Chapter 3, I discussed the methodological techniques and approaches that were applied in order to look into and respond to the research issues. This chapter gave readers a road map for comprehending the research process by going over the strategic decisions made during the planning, execution and analysis of the present study. I discussed the interpretative paradigm, or research philosophy, which is concerned with using people's subjective experiences to comprehend the world as it is. I described the sample strategies, data collecting and recording procedures, research design and methodology. I also discussed the data analysis, quality criteria and ethical issues in closing. In Chapter 4, I interpreted and discussed the results I obtained from conducting the analysis. Chapter 5 thoroughly summarised the current study's

findings and offered recommendations based on the results. This chapter also summarised the research, encompassing important findings, implications and the study's significance.

1.10 Conclusion

I gave a thorough overview of the present study's focus—teachers' attitudes on the use of ICT in their classes in Chapter 1. This chapter laid a crucial foundation by highlighting the need of comprehending the viewpoints of educators about the integration of technology into the teaching and learning process. Examining how teachers see and use ICT resources is crucial for developing successful pedagogical practices, given the speed at which technology is developing and its growing presence in educational settings. The chapter justified the necessity for this study by highlighting how favourable attitudes towards ICT may result in improved teaching practices and improved learner results.

Additionally, I provided an overview of the study's contextual background by emphasising the unique educational environment in which it is located. This context encompasses an analysis of the distinct obstacles and prospects that teachers encounter, especially in settings with limited resources like township schools in South Africa. My goal in giving this background information was to help readers understand the systemic problems that affect ICT adoption in the classroom. It is essential to comprehend this background in order to conduct a more thorough examination of the variables affecting teachers' attitudes and potential roadblocks to successful technology integration. In the context of today's educational discourse, this section lays forth the reasons why this study was both important and timely.

Following the contextual review, I presented the rationale and objective of the current investigation. The argument emphasises a lack in previous research on teachers' views towards ICTs, notably in the Business Studies curriculum. By exposing this gap, I highlighted the significance of my study in contributing to a more complete knowledge of how educators perceive technology in their teaching methods. The study's goal was to look at not only teachers' opinions, but also the variables that influence such attitudes. This clarity guides the research and informs the approach, ensuring that the study tackles the most pertinent topics in the subject.

Finally, I presented the research questions and concept clarifications to help steer the inquiry. The research questions were designed to focus on essential aspects of teachers' attitudes, such as the perceived benefits and problems of implementing ICT in the classroom. By defining these issues, I wanted to create a clear framework for the study that is consistent with its aims. Furthermore, the concept clarification section defined and explained essential concepts used throughout the research, ensuring that readers have a shared knowledge of

the language. This fundamental effort not only strengthens the study's rigour, but also prepares the reader for the following chapters, which will go further into the literature and findings on teachers' attitudes about ICT.

Chapter 2: Literature review

2.1 Introduction

I explore the body of research on ICT integration in the classroom in Chapter 2, focusing on Business Studies in particular. The notion of ICTs and their wide range of applications in educational contexts are introduced at the beginning of the chapter. This basic introduction highlights the role that ICTs play in improving learner engagement and instructional efficacy, therefore establishing the importance of technology in contemporary pedagogy. I aim to highlight how ICTs may revolutionise traditional teaching techniques and create more dynamic learning environments by placing them into the educational framework.

After the introduction, I give an analysis of the literature with an emphasis on how teachers feel about ICT tools. The section looks at a number of studies that show how teachers use technology in their lessons. Understanding these attitudes is essential because they have a big impact on whether or not ICTs are adopted and used effectively in the classroom. I also look at the pedagogical assumptions that support these attitudes, talking about how teachers' perspectives on teaching and learning influence how open they are to embracing new technology. The foundation for a more thorough examination of certain ICT tools and their use in business studies is laid out in this analysis.

After that, the chapter moves into a discussion of useful ICT equipment including projectors, laptops and smartboards. I examine the ways in which these technologies might improve instruction and learning, especially when it comes to Business Studies. I demonstrate how these technologies may support interactive interaction among learners, enhance resource accessibility and foster collaborative learning by offering instances of successful deployments. I also talk about the difficulties that come with integrating ICTs into the classroom, such as training gaps, opposition to change among teachers and infrastructure constraints. These difficulties are especially noticeable in South African township schools, where unequal access to technology can make instruction and learning more difficult.

Lastly, I provide an overview of the theoretical framework that guides the current investigation and connects it to the previously examined literature. This paradigm is used as a lens to examine how teachers' attitudes, educational convictions and the use of ICT in the classroom interact. By placing my study in this theoretical framework, I hope to add to the body of information already in existence and offer guidance on how teachers might best use ICTs to improve Business Studies instruction. The conversation is enhanced and future study in this important field of education is made possible by the merging of theory and literature.

2.2 Information communication technology (ICT)

A few examples of the tools and resources used for ICT in education are computers, laptops, tablets, interactive whiteboards, instructional software, online platforms, internet access and multimedia content (Njoku, 2015; Pietrzak, 2017). It tries to improve and maximise the learning process. ICT is used in the classroom in a variety of ways because it allows teachers to present material in ways that accommodate different learning styles, such as text, pictures, videos and simulations (Lee et al., 2016; Njoku, 2015; Pietrzak, 2017). Learners may work with classmates, do research, access information from around the globe and study at their own speed, while raising the caliber and efficacy of teachers' instructional strategies (Haleem et al., 2022). ICT-enabled classrooms have the potential to completely transform traditional approaches to teaching and learning, increasing learner engagement and enhancing flexibility to better suit the needs of today's learners. However, proper infrastructure, teacher training and a shrewd strategy are necessary to really enhance the learning process and prevent it being a distraction (Munthe, 2022). Teachers may deliver material more dynamically and engagingly by using interactive whiteboards. These interactive whiteboards encourage learners to participate by displaying multimedia information, annotating it and allowing learners to interact with it. To successfully communicate difficult subjects, teachers design and use multimedia presentations that include text, graphics, videos and audio (Haleem et al., 2022; Munthe, 2022).

ICT now affects every aspect of human existence. According to Rhatheeswari (2018), they are significantly improving business, education, entertainment and the workplace. Furthermore, a lot of individuals acknowledge that ICTs are change agents; they may affect changes in scientific research, working circumstances, information management and exchange, teaching strategies, learning methodologies and access to ICTs (Rhatheewari, 2018). In this digital age, using ICT in the classroom is essential to provide learners the chance to learn and practise the 21st century skills they need (Chen & Schulz, 2016). Teaching and learning are improved by ICT, and teachers must fulfill their duty as educational environment designers (Chen & Schulz, 2016). ICT enables educators to provide their material in an engaging way for learners at every educational program level. Teaching training programs are becoming more helpful and appealing in the use of ICT. Two of the most important examples of ICTs are the internet and interactive multimedia. These tools are essential for education in the future and need to be properly integrated into formal teaching and learning, especially in teacher education institutes (Chen & Schulz, 2016; Rhatheewari, 2018).

ICT is the umbrella term encompassing a wide range of instruments and technology that support information management and communication in a number of settings, including the

classroom. ICT consists of networks, software and hardware including computers, tablets and smartphones that facilitate information exchange, retrieval and storing (Gulati, 2018). ICT has been widely adopted in educational settings because of its quick evolution, which has improved teaching methods and learning experiences (Pawlak et al., 2020). In order to make full use of the advantages of these instruments, ICT integration in education entails more than just implementing new technology (Hwang & Wu, 2020). Teachers are seeing more and more how well-executed ICT use can promote learner engagement, critical thinking and cooperation. Additionally, ICT gives users access to a multitude of data and resources that can enhance the curriculum and provide customized learning paths (Zheng et al., 2016). However, proper infrastructure, training and support for teachers are necessary for the successful integration of ICT in education. According to research, a lot of teachers lack the competence and self-assurance needed to use ICT well, which might limit the technology's potential advantages (Ertmer, 2018). In order to effectively integrate ICT into teaching and learning, it is imperative that these problems be addressed.

According to UNESCO (Gonzalez-Zamar et al., 2020), ICT is a scientific, technological and engineering discipline and management strategy used in managing information, its usage and its link with social, economic and cultural problems. In contemporary society, the teacher is the main element of the educational system. They are still working to improve every aspect of our society. Creative learners can become competent social workers, legislators, poets, philosophers and other members of society with the help of effective teachers. Learners and teachers could have a pleasant connection (Gonzalez-Zamar et al., 2020). The needs of society and our way of life have changed significantly as a result of the fast advancement of technology. To close the digital divide in teaching and learning between the present and the future, teacher education institutes are rebuilding their curricula and classroom spaces (Alabdulaziz, 2021). This is a result of their recognition of the impact that emerging technologies have on daily life and the workplace. ICTs are changing society in profound ways. They affect all facets of existence. The impacts are becoming increasingly noticeable in classrooms (Munthe, 2022). Society is putting pressure on schools to properly adjust to this technological change since ICTs provide teachers and learners greater flexibility to customise instruction to meet each learner's needs (Alabdulaziz, 2021; Munthe, 2022).

2.3 The use of ICTs

2.3.1 The general use of ICTs

ICT integration in education refers to the incorporation of computer-based communication into the usual teaching process in the classroom (Mokyr et al., 2015). Teachers are considered as the main facilitators of ICT use in the classroom, in addition to educating learners for the

modern digital world. This is due to the possibility that ICT will provide an active and adaptable teaching-learning environment. ICT integration refers to the benefits of establishing online learning communities to tackle the challenges of contemporary globalisation while simultaneously trying to improve the caliber, accessibility and cost-effectiveness of the training that is provided to learners (Moon & Blackman, 2014). Adoption of ICT is a continuous process that fully enhances teaching and learning as well as information resources. ICT integration in education is a technology-driven approach to instruction that is directly related to using technology in the classroom (Moon & Blackman, 2014). The issue of ICT integration in education, particularly in the classroom, is crucial as learners learn best in an environment that is reliant on technology and are accustomed to it. The use of technology in education significantly enhances the pedagogical aspects that lead to successful learning because of the assistance and support provided by ICT elements and components (Jamieson-Procter et al., 2013).

ICT may be applied in a variety of ways to support instructors and learners in their subject area learning. A multitude of captivating methods, including instructional films, excitement, record-keeping, network usage, representation, guided exploration, idea generation, sound generation and the Internet, are available for use in technology-based teaching and learning (Jamieson-Procter et al., 2013). The learning setting is important given that it allows learners to participate in a variety of computer-based activities (Baris, 2015). ICTs are being used more successfully in teaching, learning and assessment than in the past. In addition, education is a constant, lifetime process in which learners modify their perspectives by pursuing information, which varies from more traditional ways (Baris, 2015).

Over the past ten years, there has been a considerable increase in the widespread usage of ICTs in education due to technological improvements and learners' growing desire for digital literacy. ICT technologies are being used by many educational institutions to increase administrative efficiency, enhance instructional delivery and promote communication (Czerniewicz et al., 2019). ICT is changing education, as seen by the increasing use of digital textbooks, online learning platforms and collaborative tools (Zawacki-Richter et al., 2019). Research suggests that using ICT effectively might result in improved educational outcomes, such as increased levels of engagement and enhanced academic achievement (Aladwani, 2020). For example, interactive technology may increase the dynamism and accessibility of learning. Examples of these are educational applications and multimedia presentations. Additionally, differentiated instruction is made possible by ICT, which enables teachers to modify their lesson plans to suit the requirements of a variety of learners (Gulbahar & Guven, 2019). Even with the possible advantages, there are still obstacles in the way of ICT being widely used in the classroom. Progress can be hampered by problems such as uneven access

to technology, disparities in teacher preparation and institutional reluctance to change (Baker et al., 2020). In order to create an atmosphere where ICT may be used in teaching and learning, focused professional development and encouraging policies are necessary to get beyond these obstacles.

Online learning materials for example, are available at all times. Telematic classrooms allow learners and teachers to participate simultaneously, easily and quickly (Skovsmose, 2013). Learning and schooling, which are increasingly concentrated on ICT, do not rely just on printed resources. The internet provides an abundance of resources, and knowledge may be received through videos, recordings of sound, graphical representations of learning materials and so on (Khumalo & Mji, 2014). According to the current study, ICTs can help to transform a classroom atmosphere into a focused one for learners. Teachers function as leaders, and the learning process that occurs when technology is employed as a learning tool is centered on the learners (McConnell et al., 2013). This promotes constructivist learning, or the creation of learners' knowledge.

2.3.2 The use of ICTs worldwide

Everything has an increasingly noticeable effect on society as a whole, and because of the astounding advancement of technology, we live in a perpetual state of change and progress. In the current world, ICT powers education, sports, engineering, management, health, tourism and economics. They are all related, either because information and communication technology is a tool or because it is the solution to issues (Tadeu et al., 2019). The primary aspect of ICT worldwide impact is its potential to provide more information availability, accessibility, interchange and usefulness among learners, regardless of their geographic locations (Lorente et al., 2020). When it comes to providing global educational services across all countries of the world, the use of ICT in education may lead to an improvement in production and efficiency (Pick & Nishida, 2015). Global trends and experiences have demonstrated that there are obvious internal and external impediments to utilising ICT in teaching and learning, especially in the current COVID-19 period where social and medical constraints have been introduced (Lorente et al., 2020). When it comes to providing global educational services across all countries of the world, the use of ICT in education may lead to an improvement in production and efficiency (Oni et al., 2015).

The way that ICT is used in education across the world varies greatly, depending on a number of factors including infrastructure, cultural attitudes toward technology and economic growth. The use of interactive technology and online materials to improve learning is a hallmark of the high level of ICT integration found in many industrialized nations' classrooms (Katz et al., 2020). For instance, Finland and Singapore have enacted extensive ICT policies that facilitate

infrastructure development and teacher training, resulting in efficient classroom technology use (Hwang et al., 2020). On the other hand, a lot of poor nations struggle with ICT integration because of a lack of infrastructure, inadequate teacher preparation and restricted access to resources (Hepp et al., 2019). Equity and quality in education can be hampered by differences in technology availability in places like South Asia and sub-Saharan Africa. To close these gaps, creative ventures like community-based technology projects and mobile learning programs are starting to emerge (Zawacki-Richter et al., 2019). These differences were brought to light even more by the COVID-19 epidemic, which drove educational institutions all around the world to switch to online instruction. This change revealed the digital divide, with underprivileged people experiencing major barriers to technology access, even as it increased the adoption of ICT in many regions (Gonzalez et al., 2021). Moving forward, addressing these gaps will be vital for ensuring that all learners benefit from the educational benefits that ICT offers.

Around the world, ICT has been perceived as beneficial for relieving teachers' workloads and improving their overall productivity. These benefits often translate into better service delivery. They may now gather data that improves their capacity to make choices, plan and manage their offices thanks to the widespread availability and use of ICT across national borders. Information technology also facilitates the sending of communications by telephone, fax, telex and electronic mail (e-mails) (Phyllis & Peter, 2016). The availability of a wide range of learning resources, the immediacy of information, the ability to learn anytime, anywhere, collaboratively, multimedia approaches to education, the authenticity and currency of information, the availability of online libraries and the ability to communicate through a multitude of channels are just a few of the benefits that have led to the application of ICT in promoting global education (Ikpesu, 2021).

Education and learning have undergone several transformations as a result of the widespread use of digital technologies (Bond et al., 2018). At least in wealthier nations, the core competencies that young people should master in school have grown to incorporate a wide range of new abilities necessary to function in the digital age. Pens and paper have been supplanted by computers and displays in many schools. COVID-19 may be viewed as a natural experiment in which educational systems almost immediately moved their whole curriculum online (García-Morales et al, 2021; Selwyn, 2021). Online management systems are taking the place of campuses in higher education, which is the sub sector with the greatest rate of adoption of digital technologies. In school management, data analytics is being used more and more. Numerous options for informal learning have become more accessible because of technology (Seres et al., 2018). According to UNESCO, the percentage of people who use the internet climbed from 16% in 2005 to 66% in 2022 worldwide. More than half of

the world's lower secondary schools have internet access in 2022 for instructional purposes (Galpaya et al., 2023).

2.3.3 The use of ICTs in African countries

ICT in education is becoming more and more common in Africa as countries try to tackle educational challenges and increase learning outcomes. Several policies and initiatives have been implemented to assist ICT integration since it has the ability to enhance access to high-quality education (Mtebe & Raisamo, 2014). For instance, programs to give computers and internet connection to schools have been launched in several countries, such as Kenya and South Africa (Bwalya & Zulu, 2018). Despite these initiatives, it may still be challenging to employ ICTs in African educational settings. Issues include inadequate teacher preparation, unreliable internet connectivity and poor infrastructure prevent ICT integration from reaching its full potential (Kumar et al., 2020). Moreover, the lack of locally relevant materials and resources that reflect the many cultural contexts in which African children learn makes the effective use of technology in the classroom more challenging (Bingimlas, 2019). But innovative approaches to utilising ICT for the advancement of African education are beginning to surface. For example, mobile learning initiatives have demonstrated effectiveness in providing learners with access to educational resources using cell phones even in remote regions (Ssekakubo et al., 2018). These initiatives demonstrate how ICT, by using local contexts and resources, may promote educational quality and equity across the continent.

Africa's future growth and participation in the knowledge society will be greatly influenced by its capacity to offer its citizens high-quality education (Bloom et al., 2014). While ICTs have been used around the world to improve the quality and accessibility of education, many African nations continue to face the problem that investments in higher education do not always provide the desired results (Bloom et al., 2014). African countries are concentrating on putting legislation in place to assist this ambition, or at the very least employing ICT in education to accomplish important strategic development goals (Phale et al., 2021). On September 23, 2015, the United Nations (UN) established Sustainable Development Goal 4 (SDG4), which is part of its 2030 development plan and aims to offer equitable and inclusive quality education while promoting opportunities for lifelong learning for all people (Jahan, 2022). This objective is particularly important in sub-Saharan Africa, where an estimated 57 million out-of-school children reside (Henderson, 2016). The former "education goal" of the Millennium Development Goals, which primarily focused on attaining universal primary education, was significantly altered with the inclusion of the Sustainable Development Goal (SDG) 4 (Samarakoon et al., 2017). In 2015, the UNESCO Institute for Statistics produced a report comparing the e-readiness of sub-Saharan Africa and displaying the prevalence of ICT use

throughout the continent. In this context, "e-readiness" refers to a nation's capacity to use ICT for education and engage in online digital activities (Wallet 2015, p. 6).

With at least 60% of primary school learners in each of the sub-Saharan African nations of Seychelles, Mauritius, South Africa, Botswana and Namibia having access to ICT resources including computers, laptops and software, these countries have the greatest rates of ICT literacy (Wallet 2015). Even if ICT use is seen in several African countries, some African nations are still having difficulty using the technology. This is evident in Sierra Leone. In Sierra Leone, this is apparent. Sierra Leone is still listed by UNESCO as one of several African nations without precise planning frameworks and data gathering systems for promoting ICT usage in education, even though the country developed a national ICT strategy in 2009 (Jackson, 2015). ICTs are hailed as a huge benefit for African education, but little is known about how to use them effectively.

One of the main barriers to ICT use in Africa has been the lack of electricity (World Bank 2015). Less than 20% of schools in some African countries, including Burkina Faso, Tanzania, Malawi and the Democratic Republic of the Congo, have access to electricity (Wallet, 2015). Conversely, 75% of primary and secondary schools have electricity, while 100% of schools in Seychelles and Mauritius have access to it; UNESCO Institute for Statistics figures constantly show that the latter country has the highest percentage of power (Wallet, 2015). Since all ICTs require access to power, sub-Saharan Africa's widespread energy poverty poses a serious barrier to the use of ICTs in society at large as well as in education.

Low computer literacy among teaching personnel across different locations is a significant barrier to ICT integration in Africa, making it challenging to use ICTs in education from a pedagogical perspective (World Bank, 2016). Spreading ICTs is not the only issue; there is also the matter of how best to support teachers in establishing ICT-enhanced learning environments. For example, Porter et al. (2016) note that many national and regional ICT initiatives such as the Pan African Research Agenda, SchoolNET, Intel World Ahead, One Laptop per Child and the New Partnership for Africa's Development do not successfully integrate ICT with successful instructional programs. Instead of understanding that technologies are inextricably linked to social, cultural and political settings, there has mostly been a propensity to add technology and then wait. Munro et al. (2017) note that the focus on a "technological fix" approach has replaced an examination of the ways in which different actors, institutions and processes affect ICT use in education and how this informs ICT policy.

It is clear that in order to improve ICT integration in African education, a great deal of research on the many settings of ICT use is necessary (Ponelis & Holmner, 2015). ICT use is currently underappreciated in many developing nations, including Africa. As a result, policies pertaining to ICT education lack an empirical foundation (Mathevula & Uwizeyimana, 2014). By using data from a disadvantaged area in sub-Saharan Africa, this study immediately tackles the problem and provides insight into future challenges.

2.3.4 The use of smartboards and projectors for teaching and learning

Projectors and smartboards, which offer interactive platforms for teaching and learning, are becoming more and more prevalent in educational settings. Studies reveal that these resources can improve learner involvement and engagement by enabling lively demonstrations and group projects (Smith et al., 2010). These technologies' visual elements aid in grabbing learners' attention and accommodate a variety of learning preferences. However, the ability of teachers to effectively incorporate these resources into their lessons will determine how beneficial smartboards and projectors are in the classroom (Higgins et al., 2016). To ensure that new technologies improve rather than diminish the learning process, educators must be equipped with the pedagogical knowledge and abilities required. Maximizing the potential of these technologies in the classroom requires professional development programs that emphasise their practical uses. Additionally, even while projectors and smartboards might have a lot to offer, they also need constant upkeep and assistance. To guarantee that teachers can utilise these resources efficiently and that technological difficulties do not impede the delivery of education, schools must make investments in infrastructure and training (Higgins et al., 2016). Educational institutions can provide a setting where projectors and smartboards enhance teaching and learning results by taking these factors into account.

A range of captivating techniques that will improve and expand the learning experience are offered by a technology-based approach to teaching and learning (Wasserman & Migdal, 2019). It helps teachers craft captivating lesson plans that motivate learners to take an active role in their education (Richmond et al., 2018). Teachers can use pen tools or smartboard pens to run programs on smartboards by touching the screen with their fingertips. They can also type directly using a digital keyboard that is displayed on the whiteboard, or they can handwrite anything that can later be typed (Van Scotter & Garg, 2019). As smartboards are touch-sensitive, multimedia material can be distributed more expertly and with more efficiency. They possess the capacity to revolutionise the field of education and play a pivotal role in facilitating the establishment of learner-focused cooperative environments (Richmond et al., 2018; Van Scotter & Garg, 2019; Karim et al., 2021). Smartboards are thought to improve teaching efficacy both qualitatively and statistically, as well as to substantially simplify and

improve instructors' usage of computers and the internet (Armah, 2019; Karim et al., 2021 Lembaho et al., 2022; O'Connor, 2022).

The use of a projector and a projector sheet, a common teaching strategy, is a great replacement for chalk and talk and has several advantages (Chan & Lay, 2021). The projector takes time to prepare the materials in advance, but this type of multimedia assures that the training is of a high standard (Karim et al., 2021). The Business Studies classes need visual assistance to help them understand the context. The use of graphics, diagrams and projectors by teachers decreases the amount of work that has to be done on the chalkboard (Karim et al., 2021). More complex materials may be brought into any classroom by employing projectors, and they are simple to operate, adaptable and make it simple for learners to take notes from them (Chan & Lay, 2021; Karim et al., 2021).

2.3.5 ICTs in Business Studies instruction

ICT integration in business studies education has a lot of promise to improve learner engagement and learning. Studies reveal that the use of ICT tools, including interactive platforms, online resources and simulations, can promote a better comprehension of business principles and procedures (Tondeur et al., 2017). By enabling learners to use theoretical information in real-world scenarios, technologies like financial modeling software and business simulation games for example, promote critical thinking and problem-solving abilities. Nonetheless, the attitudes and readiness of instructors are a prerequisite for the successful integration of ICT in Business Studies. Research shows that teachers are more likely to integrate technology into their courses successfully if they believe it adds value to their instruction (Ertmer, 2018). Thus, in order to optimise the advantages of ICT in Business Studies education, professional development programs that improve instructors' digital literacy and pedagogical methods are crucial (Schmid et al., 2014). Furthermore, to provide effective integration, the curriculum and ICT tools must be in line. In order to enhance learners' completion of the learning objectives in Business Studies, teachers must choose and use technologies that engage learners (Hwang et al., 2020). Teachers may develop dynamic learning environments that equip learners for the demands of a technology-driven corporate landscape by emphasisng the appropriate and meaningful use of ICT.

The use of technology such as the internet promotes learners' self-exploration even further, for example utilising the internet to grasp ideas learnt in class (Keipi & Oksanen, 2014). The use of Information Technology can help boost the drive and enthusiasm of learners in Business Studies (Keipi & Oksanen, 2014; Khumalo & Mji, 2014). Learners are eager to complete projects using Excel, and the learning process becomes more important to them as a result. According to research, learners claimed to have a better comprehension of Business

Studies after using computers (Keipi & Oksanen, 2014). ICT in learning not only increases learners' higher-level thinking skills, but also motivates them to consider ways for solving real-life issues (Abramovich, 2014).

According to research, ICTs have altered the Business Studies teaching and learning process. It has improved how teachers interact with learners and provides topic material (Arhin, et al., 2022; Gcabashe & Ndlovu, 2022). Access to a variety of interactive learning tools, including pictures, videos and virtual case studies, is made possible through ICTs (Amesi et al., 2014; Schindler et al., 2017). These enhance learning by making it more interactive and engaging, which enables learners to comprehend difficult Business topics in a real-world setting (Amesi et al., 2014; Schindler et al., 2017). ICT tools make collaboration and dialogue between learners and teachers easier. The use of video conferencing and online discussion boards lets learners collaborate on group projects, exchange ideas and learn from their teachers and classmates. Virtual reality applications are made possible by ICTs (Kumar et al., 2022). In a risk-free setting, learners may mimic real-world business scenarios, make decisions and track the results (Kumar et al., 2022).

Virtual reality applications can provide learners with immersive experiences that enable them to explore professional environments and understand difficult concepts (Suleiman et al., 2020). ICTs have changed how business studies is taught and learned by offering real-world examples, online platforms for communication and cooperation and interactive learning tools (Nwazor & Godwin-Maduike, 2015). Teachers improve learner engagement, encourage active learning and prepare learners for the digital business world by incorporating ICTs into Business Studies teaching and learning. On the other hand, when learners are not constrained by a curriculum or limited resources, they will profit from ICT integration; instead, they will engage in practical activities in a technology-based course that is intended to improve their understanding of the subject (Suleiman et al., 2020). Additionally, it assists teachers in creating engaging, creative and effective lesson plans that inspire learners to participate in their education. ICT integration in the classroom has been found to improve learner learning and boost their capacity for active learning (Suleiman et al., 2020).

When ICT is integrated into education, several benefits are indicated. According to Eze et al. (2013), benefits include resource allocation, collaborative learning and increased learner freedom. Technology integration involves more than just setting up computers and connecting to the internet; it also includes evidence of lesson plans involving the pedagogically informed use of ICT tools (Mereku & Mereku, 2015). Research conducted by Padayachee (2016) and Nkula and Krauss (2014) indicates that not enough teachers make sure that ICT is integrated into the classroom in an efficient manner. Research has shown that teachers' misconceptions

and low self-efficacy prevent them from using ICT in the classroom (Nkula & Krauss, 2014). “There is a misconception that educational access issues will be resolved and educational transformation will occur by simply putting this technology in the hands of learners" declare Tamim et al. (2015, p. 2). ICT use in the classroom is hindered by a few factors, such as a lack of time (Assan & Thomas, 2016), a lack of understanding of the e-Education policy (Vandeyar, 2015), a lack of support for both the policy and the infrastructure, and a lack of necessary skills. ICT needs to be balanced in the educational system by incorporating it into lessons because it has been developing quickly. From paper sources to open sources, learning activities should be redesigned and reoriented (Meenakshi, 2014).

ICT adoption has not received much attention from underdeveloped countries and has not been a top priority in educational reform (Menasha, 2014). Videos have been determined to be the most successful type of ICT use in education since the focus is on creativity in presentation. It has been demonstrated that videos work well in a range of educational contexts, including classrooms, where they may improve instruction and encourage learners to make their own movies. Research suggests that incorporating ICT into the curriculum might enhance information construction, theoretical comprehension, and evocative learning (Barak & Dori, 2015; Romeo, Lloyd, & Downes, 2014). According to Weston and Bain (2019, p. 8), when teachers and learners have a shared understanding of how to utilse technology, they can enhance their teaching methods. Education is evolving to prepare learners for an information and communication technology-driven society. According to Daniel (2016), ICT has the ability to shift education from a teacher-centered approach to a more participatory and instructive environment for learners. According to Bingimlas (2015), teachers were only taught basic computer skills and not the educational components of ICT, which hindered their integration. The United Nations Educational, Scientific and Cultural Organization-International Institute for Capacity Building in Africa (UNESCO-IICBA) suggests adopting teacher education programs that combine ICT in order to attain high-quality teacher education (Trucano, 2018).

2.4 ICT tools status available in South African township schools

The state of the ICT resources accessible for instruction and learning in South African township schools is frequently marked by notable differences. Basic technology infrastructure, including computers, dependable internet connectivity and up-to-date instructional materials, is lacking in many of these areas' schools (Mavuso, 2016). Studies reveal that although certain educational institutions could possess restricted ICT resources, the general accessibility and usefulness of these tools are insufficient to facilitate efficient technology integration (Czerniewicz et al., 2019). Township schools deal with issues that go beyond supplies of computers and software. Due to a lack of support and training, teachers frequently express

feeling unprepared to incorporate ICT into their lessons (Harrison et al., 2020). Thus, the potential advantages of technology in augmenting learner learning may be limited if there is limited adoption of ICT tools in classrooms, even in the event that they are available (Zhang et al., 2019). There are now initiatives in place to raise the ICT status in township schools, with a particular emphasis on educating educators, enhancing facilities and expanding the availability of learning materials (Mthethwa et al., 2021). The development of sustainable ICT integration in these schools depends on collaborative efforts including the public, business and community sectors. These initiatives seek to improve teaching and learning environments by tackling both pedagogical and technical issues.

According to Dube (2020), the DBE should provide learners as well as educators with online teaching resources. Smartphones, tablets and conventional phones with the ability to install educational software like an LMS must be among these devices. Lack of ICT furthers feelings of inadequacy by upholding the status quo and the myth that people living in townships are passive recipients of government support rather than active participants in shaping their own futures. The private sector is dynamic in service and infrastructure development, according to the resource mobilisation hypothesis (Edwards & Kane, 2014). The resource mobilisation theory states that in order to reduce digital exclusion in township areas, schools should identify and mobilise their own material and human resources (Edwards & Kane, 2014). Several township schools feature computer laboratories with desktop or laptop computers. However, the learner-to-computer ratio is frequently high, restricting individual learner access (Van Zyl, 2013). Many township schools continue to struggle with access to dependable internet connectivity. While an internet connection is available at certain schools, it may be limited (Johnson et al., 2016). This can make it difficult to access internet resources and communicate with the rest of the digital world (Johnson et al., 2016). Due to limited resources and physical restrictions, smartboards are not generally available in township schools. Schools with smartboards frequently confront maintenance and repair problems and it becomes like a white elephant (Edwards & Kane, 2014).

There are not enough computers for every learner. In some areas, private education options are scarce or nonexistent (Margolis, 2017). These educational institutions have low ICT comprehension and limited technology dissemination as a result of a mismatch between complementary resources and an improper mix of ICT resources (Margolis, 2017). One of the main obstacles to the adoption and use of ICT is outdated and old equipment. The basic ICT tools and personal computers that township schools own are untrustworthy and unreliable; these schools do not have access to modern software and technology (Mlambo et al., 2020). Township schools have to contend with issues related to technological expertise, a dearth of ICT service centers and a shortage of trained technical personnel (Munje & Jita, 2020).

Technical support specialists, who may work for internal staff, external service providers, or both, are essential to the ongoing sustainability of ICT use at a given school (Munje & Jita, 2020). Technical malfunctions could cost a lot of money and time if there is no on-site technical help. A significant barrier to maximising computer use in classrooms has been the absence of prompt technical assistance (Van Zyl, 2018; Johnson et al., 2016). Many township schools have projectors and other audio-visual technology to help with classroom presentations (Van Zyl, 2018; Johnson et al., 2016). However, the availability and quality of this equipment differs from school to school (Johnson et al., 2016), despite efforts by the South African government to enhance access to ICT tools in township schools. However, continuous investment and support are required to ensure that township schools have equal access to good ICT tools for teaching and learning.

2.5 Teachers' attitudes towards the use of ICT tools

An individual's attitude towards an item may be described as their assessment of their sentiments and beliefs regarding an object or conduct (Arhin et al., 2022). How keen teachers are to use technology in the classroom is greatly influenced by their perceptions of ICT resources. Research has shown that positive attitudes are often linked to increased usage of technology and innovative teaching methods (Teo, 2011). Teachers' opinions towards ICT can be influenced by a variety of factors, including perceived utility, past technological experiences and institutional support (Ertmer, 1999). On the other hand, unfavorable views may act as obstacles to the successful integration of ICT. Teachers that are resistant to implementing technology in the classroom may include those who feel overpowered by it or who think it has no place in their instruction (Shin, 2018). Teachers may use technology as a useful teaching tool by adopting a more positive attitude toward ICT by addressing these attitudes via focused professional development and support (Al-Emran et al., 2019). It is crucial to comprehend the nuances of the views of teachers in order to create training initiatives that effectively support the integration of technology into the classroom. Stakeholders may develop solutions that enable teachers to use ICT effectively in their education by pinpointing the specific issues and difficulties that they encounter, eventually improving learner learning outcomes (Zheng et al., 2016).

The use of technology in the classroom is transforming the duties of teachers in a variety of ways. Teachers' understanding of technology is thought to be a crucial element that belongs in their professional competencies (McConnell et al., 2013). Teachers' abilities and attitudes towards technological growth are inextricably tied to their capacity to successfully implement technology in educational processes (Yılmaz, 2016). The attitudes of teachers towards the integration of ICTs into the classroom are a vital aspect in the successful acceptance of new

technologies. Whether or not teachers value employing technology in the classroom is evident in their attitudes. The introduction of technology into the Business Studies classroom indicates that teachers who demonstrate positive views about the integration of ICT in the classroom will find it simpler to incorporate technology into their lessons (Molto, 2014). As a consequence, teachers with a positive attitude towards ICT may integrate technology into the classroom more effectively than teachers with a negative attitude. Teachers' views have a significant impact on how much they appreciate its significance.

Teachers' attitudes towards the introduction of technology into classrooms have a profound influence on ICT practices in schools, but it is still difficult to persuade teachers to use ICT tools (Asad et al., 2021; Park & Son, 2022). One of the biggest barriers to using ICT tools in the classroom is teachers' attitudes and ideas about its utilisation. While individuals who adhere to teacher-centered pedagogies (traditionalists) are less likely to integrate computers in their teaching and learning, pedagogical perspectives that are more learner-centered are more likely to do so (Goh & Sigala, 2020). While teacher attitudes influence their intention to employ technology, it is the teacher's beliefs that influence their attitudes. Teachers' attitudes are crucial in the learning-teaching process that makes use of internet and computer connections (Gedeon & Valliere, 2018). The use of ICT instruments in education has changed classroom settings. The way teachers see these resources has a big impact on whether or not they are adopted and used successfully in the classroom. Studies show that optimistic views are associated with a greater propensity to use ICT, whereas pessimistic views may impede the process of integration (Zhang et al., 2020). Numerous investigations have examined the views of teachers on ICT, exposing a range of opinions that differ depending on the situation (Barak, 2014; Bill et al., 2015, Fransson et al., 2018; Kontkanen et al., 2016; Shin, 2015; Potyrała et al., 2021). Teachers throughout the country are excited about how ICT might improve learner learning. For example, a Kenyan study found that teachers understand the benefits of ICT in promoting interactive learning and raising learner engagement (Mokua et al., 2021).

The speed at which technology is changing and the growing pressure on educators to incorporate ICT into their lesson plans have left many of them feeling completely overwhelmed (Thomas, 2016). According to a South African poll, teachers reported dissatisfaction with insufficient training and assistance, even if they recognized the value of ICT (Seymour et al., 2019). Because they feel unable to use new technology successfully, teachers may harbour unfavourable attitudes as a result of their lack of preparation. It is impossible to overestimate the importance of institutional assistance (Shin, 2015). According to research, educators who work at institutions with excellent ICT infrastructure and leadership are more likely to see the benefits of technology use in the classroom (Albugami & Ahmed 2015). A study conducted in

Turkey revealed that teachers' propensity to use ICT is positively impacted by supportive school settings that offer resources and continual professional development (Çakır, 2022). This implies that institutional circumstances have an impact on instructors' opinions in addition to their own.

Cultural influences are also very important in determining how instructors feel about ICT resources. The way teachers see and use technology in the classroom can be influenced by cultural attitudes about education and technology in many different places. Li et al. (2020) conducted a study in China that revealed reluctance to change among instructors due to a contradiction between their traditional beliefs on pedagogy and the new practices supported by ICT. Developing ways to assist instructors in their ICT integration initiatives requires an understanding of these cultural differences. Furthermore, teachers' views about ICT might be influenced by their age and experience. Younger teachers have a tendency to see technology favorably and are more likely to include it into their lesson plans since they are frequently more technologically savvy. On the other hand, elderly teachers could be reluctant because they believe there are technical obstacles (Ertmer & Ottenbreit-Leftwich, 2019). This generational gap implies that in order to promote positive attitudes among all age groups, specific professional development activities need to take these disparities into account. Furthermore, it is impossible to undervalue the significance of learner involvement. Teachers are likely to have more positive attitudes about ICTs if they witness enhanced learning outcomes and higher learner enthusiasm as a result of employing these tools (Sharman & Srivastava, 2020). According to an Australian research, teachers who used ICT to support active learning had more work satisfaction and had a more favorable attitude about using technology (Wang et al., 2021). This link underscores how crucial it is to show how ICT may improve learning outcomes in real-world ways.

A complex combination of human, institutional, cultural and experience variables shapes teachers' views about the use of ICT technologies (González-Sanmamed et al., 2017). Even while a lot of teachers are excited about how technology may improve education, there are obstacles including poor training and cultural opposition that can cause ambivalence (Teo & Noyes, 2014). Fostering good attitudes and optimizing the advantages of ICT in education require addressing these difficulties through all-encompassing assistance, focused professional development and an awareness of contextual circumstances (Teo & Noyes, 2014). To help educators in this dynamic setting as technology continues to grow, constant study and adaptation will be required (González-Sanmamed et al., 2017).

2.6 Pedagogical beliefs held by teachers

Teachers' methods of teaching, including the use of ICTs in the classroom, are greatly influenced by their educational ideas. Studies show that teachers who adhere to constructivist pedagogies—which prioritize active learning and learner participation—are more likely to implement cutting-edge instructional strategies that make effective use of technology (Shin, 2018). These ideas have a big impact on how teachers view ICT's function in promoting learning and establishing the dynamics of the classroom. On the other hand, the use of ICT in the classroom may be constrained by conventional educational ideas that place a higher priority on rote learning and direct instruction (Miller, 2019). Teachers who hold these views may find it difficult to see how technology may improve their lessons, which could lead to a lack of utilization of the ICT tools that are available. It is crucial to comprehend these educational philosophies in order to create professional development initiatives that support more innovative teaching methods.

Pedagogical ideas are the cornerstone of teachers' methods and have a significant impact on the dynamics of the classroom and how learners learn (Peterson et al., 2018). These ideas cover the ways in which teachers see instruction and learning, the nature of knowledge and the responsibilities that learners and teachers play in the educational process (Peterson et al., 2018). It is crucial to comprehend these ideas because they have a direct impact on the methods teachers use in the classroom and the way they interact with the learners (Howe et al., 2019). The constructivist method, which holds that learners build their own understanding and knowledge by experiences and interactions, is one significant category of educational views. Studies have indicated that educators with constructivist philosophies are more likely to use inquiry-based learning and cooperative group projects as active learning methodologies (Liu et al., 2020). Because learners are considered as active participants in their own education rather than as passive receivers of information, this method promotes critical thinking and supports autonomy for learners (Webb et al., 2014).

On the other hand, certain teachers might follow conventional pedagogical views that prioritize teacher-centered classrooms, rote memorization and direct teaching (Muganga & Ssenkusu, 2019). This method frequently represents a more didactic educational style in which the instructor serves as the main information source. According to a study conducted in the US, teachers who hold conventional ideas have a lower propensity to implement cutting-edge methods, which limits the chances for learner involvement and deeper learning (Kunter et al., 2019). Particularly in educational institutions that promote uniformity and rigorous testing, these old views can become firmly ingrained and difficult to overcome (Shah, 2020).

The understanding of the function of assessment in the learning process is another essential component of educational beliefs (Buehl & Beck, 2014). Teachers who see evaluation as a tool for learning are more likely to use formative tests, which provide learners with input and help them improve their teaching strategies (Buehl & Beck, 2014). On the other hand, summative assessments, which can inhibit creativity and inquiry in the classroom, may be mostly relied upon by those who view assessment as a tool for assessing learner performance (Shavelson et al., 2019). This contrast emphasises how crucial it is to match assessment practices with educational philosophies in order to improve learner learning.

Teachers' educational views are shaped in large part by contextual and cultural influences (Fulmer et al., 2015). Teachers' attitudes are frequently shaped by their professional experiences, educational backgrounds and the conventions of their schools (Fulmer et al., 2015). For example, a South African researcher found that training experiences—which frequently focused on conventional methods—had a substantial impact on instructors' ideas about pedagogy (Motshega et al., 2021). Resolving discrepancies between belief and practice requires an understanding of the institutional and cultural environments in which educators function. Teachers who have high expectations for their learners' abilities are more likely to use differentiated instruction techniques to meet the requirements of a wide range of learners and foster equality in the classroom (Guo et al., 2020). On the other hand, educators with low expectations can unintentionally restrict their pupils' chances for development, which would continue a cycle of poor performance (Timmermans et al., 2016). Empirical studies have continuously demonstrated the critical role that instructors' perceptions of the abilities of learners have in influencing their interactions and expectations inside the classroom (Timmermans et al., 2016).

Opportunities for professional growth are essential for encouraging teachers to have good pedagogical views (Lai et al., 2018). Good professional development initiatives may support educators in challenging their preconceived notions, experimenting with novel approaches and working together with other educators (Brandmiller et al., 2020). According to a meta-analysis, teachers' pedagogical attitudes and practices are significantly changing when they get ongoing, collaborative professional development (Kraft et al., 2020). Educational institutions may foster a culture of reflective practice and innovation by offering continuous assistance and resources (Brandmiller et al., 2020).

Rapid advancements in learning technologies in the late 20th century led to significant systemic changes in education (Huang, 2019). This is due to the proactive, open and comprehensive learning environment that technology provides for education (Huang, 2019). The Department of Basic Education has allocated a sizable sum to provide teachers with the

resources they require to improve the educational process (Gcabashe & Ndlovu, 2022). Many nations are facing a similar problem; in spite of their best efforts teachers are not using the technology at their disposal to its fullest extent (Gcabashe & Ndlovu, 2022). This has become a serious issue as several earlier studies have demonstrated that using ICT to improve teaching and learning may improve the performance of learners (Arhin et al., 2022; Jamieson-Proctor et al., 2013). The factors influencing teachers' acceptability of ICT usage in the classroom have been the subject of several scholarly investigations (Chidiebere, 2020; Jamieson-Proctor et al., 2013; Zhang, 2013). It is clear that one of the biggest barriers to adoption is the opinions of teachers because it is they who implement the changes in their teaching and learning processes. The value of teachers is increasing, especially when it comes to utilizing ICT in pedagogy to improve learner accomplishment and encourage critical thinking and creativity (Ghavifekr & Rosdy, 2015).

Teachers' educational views have a big impact on whether or not they decide to use ICT pedagogically. Teachers who follow the traditional or instructivist (teacher-centered) approach see themselves as the main source of knowledge and the major subject (Lembaho et al., 2022). Teachers with instructivist pedagogical views are negatively connected with ICT integration in the classroom, and when ICT is used, it is only used to supplement traditional teaching methods—that is, it is integrated in a representational manner (Armah, 2019; Lembaho et al., 2022). The views of teachers are a complex topic that can occasionally contain contradictions. In order to explore this theory, I will contend that although constructivist pedagogical concepts and constructivist technology usage are highly correlated, constructivist pedagogical views are also correlated with instructivist or conventional technology use (O'Connor, 2022). Effective ICT integration also requires encouraging teachers to rethink their instructional assumptions. Professional development programs can inspire instructors to adopt innovative pedagogical strategies that employ ICT to improve learner learning by offering chances for collaborative learning, and exhibiting effective instances of technology use in the classroom (Tondeur et al., 2017).

Teachers' pedagogical ideas have a crucial role in shaping instructional strategies and learner learning results (Danijela, 2018). Teachers' work approaches are shaped by these ideas, which are impacted by constructivist or conventional paradigms, assessment views, cultural settings and expectations regarding learner capabilities (Nilsson, 2014). Enhancing learner learning and enhancing teaching practices can result from recognizing and addressing these misconceptions via focused professional development and encouraging school settings (Nilsson, 2014).

2.7 Teacher-self efficacy beliefs

The definition of teacher self-efficacy beliefs is the belief held by teachers about their own capacities to carry out particular teaching activities, such as lesson design, instruction delivery and engagement with learners (Bandura, 2017). Self-efficacy, which has its roots in Bandura's social cognitive theory, is a crucial factor in deciding how teachers approach their job, deal with obstacles and persevere in the face of difficulty (Bandura, 2017). High self-efficacy teachers are more likely to use creative teaching methods, show excitement in the classroom and persevere through setbacks to create a supportive learning environment for the learners they teach (Tschannen-Moran & Woolfolk Hoy, 2014). This concept is essential to comprehending how educators approach their work since it has a big impact on their management of the classroom, instructional tactics and general efficacy in promoting learner achievement. Studies have indicated a correlation between increased learner results and higher levels of self-efficacy in the classroom (Ersanlı, 2015; Hwang et al., 2016; Tschannen-Moran & Woolfolk Hoy, 2021). A significant element of a teacher's self-efficacy is their prior classroom experiences. A high feeling of self-efficacy is more likely to emerge in teachers who have had success in their teaching. For example, an American study discovered that instructors' self-efficacy levels were greater when they received positive feedback from learners and colleagues (Ross & Bruce, 2020). On the other hand, adverse experiences, such as difficult classroom dynamics or a lack of assistance, can erode instructors' self-efficacy by undermining their confidence in their skills.

Teacher self-efficacy views are also significantly shaped by cultural and environmental variables (Perera et al., 2019). Teachers in diverse classes for example, could face particular difficulties that either increase or decrease their sense of self-efficacy. According to a research conducted in Australia, educators who adopted culturally responsive teaching methods had greater levels of self-efficacy when it came to meeting the requirements of a variety of learner groups (Ladson-Billings, 2018). It is essential to comprehend the environment in which educators work in order to successfully meet their demands for self-efficacy. Furthermore, it is important to understand the value of peer support and mentoring. After taking part in mentoring programs, mentees reported feeling more confident and competent in their teaching practices, according to a longitudinal research (Hobson et al., 2019). These connections give novice educators direction, comfort and useful tactics that boost their self-efficacy.

Nonetheless, a lot of teachers have poor confidence in their ability to use technology, sometimes as a result of insufficient guidance and assistance (Ertmer, 2018). Teachers who lack confidence may find it difficult to experiment with new technologies or adjust their teaching strategies, which can lead to hurdles to effective ICT integration (Zheng et al., 2016). By

addressing self-efficacy, specific professional development programs can enable educators to increase their ICT proficiency and self-assurance (Pearman et al., 2021) Additionally, creating a collaborative and encouraging learning atmosphere in the classroom might raise instructors' self-efficacy views (Pearman et al., 2021). Schools may foster a culture of continuous learning that encourages teachers to accept ICT as a useful tool for improving their teaching methods by offering chances for peer mentorship and the sharing of best practices (Tondeur et al., 2017).

Another key belief closely connected with ICT integration is teacher self-efficacy. Self-efficacy is a powerful influence in human adaptability to change (Karim et al., 2021). It is a person's self-confidence in their skills to conduct a set of activities in order to achieve a specific objective (Karim et al., 2021). The amount of effort an individual puts in a certain task, the expected rewards of their efforts and their tenacity in coping with challenging situations are all determined by self-efficacy beliefs (Stevenson et al., 2019). Actually, a teacher is more likely to use technology in the classroom if they have the knowledge and self-assurance to do so (Stevenson et al., 2019). However, according to Ghory and Ghafaroy (2021), although some people have enthusiastically embraced technology (such as computers), others have cautiously welcomed it, and still others have openly rejected it (Ghory & Ghafaroy, 2021). Resistance to ICT tools in the classroom is sometimes attributed to the risk of teachers losing influence over the principles and objectives of classroom activity. Yet it is critical to recognise that an unwillingness to change is not always an obstacle in and of its own, but can also indicate the existence of an even broader issue (Geladze, 2015). According to Geladze (2015), this basic problem seems to be a lack of the necessary knowledge, skills and attitudes (SKAs) to adjust to the changes that technology would inevitably bring about in the field of education. Therefore, the only way to be inspired and confident when incorporating ICT in teaching and learning is to have access to ICT equipment and the requisite ICT skills (Wasserman & Migdal, 2019). Positive attitudes towards technology and access to ongoing professional development for educators might be essential elements of successful classroom technology integration.

2.8 The technology, pedagogy and content knowledge (TPACK)

The TPACK approach emphasises how technology, pedagogy and subject knowledge interact to enable effective teaching. According to Mishra and Koehler (2006), teachers must have a solid understanding of each of these topics and how they relate to one another in order to successfully integrate ICT into their lessons. The TPACK model emphasizes how important it is to understand how to use technology and subject knowledge in pedagogically competent ways in addition to having knowledge of both. According to research, teachers must build TPACK in order to successfully negotiate the challenges of technology integration in a variety of educational settings (Koehler & Mishra, 2017). Strong TPACK teachers are better able to

create interesting and productive lessons that use technology to improve learners' comprehension (Schmid et al., 2014). Consequently, in order to promote more significant ICT integration in the classroom, professional development programs must concentrate on enhancing teachers' TPACK. In addition, the TPACK framework emphasises how important it is for teachers to work together to exchange best practices and build a common body of knowledge regarding technology integration. Schools may promote a culture of continuous learning that strengthens TPACK development and eventually improves teaching and learning outcomes by giving instructors opportunities to collaborate (Hwang et al., 2020). Including the TPACK framework in professional development and teacher training programs can result in more efficient and long-lasting ICT integration in the classroom.

Integrating technology in the classroom may be beneficial if it is planned using the TPACK. When teachers incorporate technology into their lessons, they employ the framework of technology, pedagogy and topic knowledge. This approach is based on Lee Shulman's initial pedagogical, content and knowledge (PCK) paradigm (Archambualt & Barnett, 2010). The TPACK framework was developed in 2009 by Koelher and Mishra, who further refined it. Three different kinds of knowledge are needed for every lesson: content, pedagogical and technological (Dong et al., 20-15). Figure 2.1 depicts the TPACK framework, which includes all knowledge components. These knowledge components must be integrated into a technologically-based instructional plan.

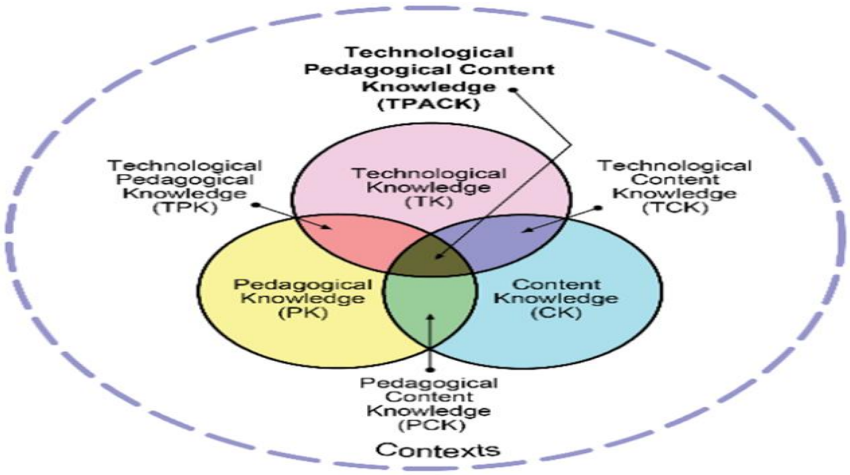

Figure 2.1. The TPACK with its framework (Source: Koehler & Mishra, 2009)

A teacher's mastery of the subject topic they are teaching is referred to as their content knowledge. This entails being up to date on the most recent findings and advancements in the subject in addition to having a thorough knowledge of the fundamental ideas, theories and facts within a topic. According to Parker et al. (2020), teachers may promote a better grasp of the topic by presenting it effectively and contextually when they have a solid basis in content

knowledge. According to recent research, instructors who possess a strong understanding of their subject matter are better able to anticipate misunderstandings from learners and correct them early on, which improves learner results (Ball et al., 2019). Teaching strategies and practices are included in the field of pedagogy. It includes managing the classroom, using evaluation methods, developing successful teaching practices and comprehending how learners learn. With this insight, educators may create classes that actively include learners in their learning process while simultaneously effectively conveying material. Effective instructional approaches are essential for encouraging learners' critical thinking and creativity, claim Darling-Hammond et al. (2017). Teachers may establish inclusive learning environments where all learners are encouraged to engage and develop by implementing diverse teaching tactics that accommodate various learning styles.

Understanding how to employ different technical tools and resources to improve teaching and learning is referred to as technological knowledge. Technology is a major enabler of collaboration, communication and information access in today's schools. To support their teaching aims, educators need to be adept at choosing and integrating the right technology. According to research by Lai and Hwang (2016), technology can revolutionize conventional teaching strategies and enable more individualized and interactive learning environments. Therefore, teachers who are skilled in using technology may greatly increase the motivation and involvement of their learners.

Teachers who want to properly incorporate technology into their courses need to adhere to this framework. Every element of their methodology is essential in being ready to integrate technology into the class. It will enhance the classroom's successful integration of technology and assess if the learning goals were achieved (Angeli et al., 2015). It will also point out areas where the lesson's use of technology integration needs to be improved. This study indicates that some educators find it challenging to get ready to include technology into their lessons. A major problem that instructors have is a deficiency of technology knowledge and proficiency. The emphasis on technology and technical abilities in many educational courses, together with a lack of time devoted to understanding how technology interacts with the topic and the pedagogy, are the root causes of these difficulties (Rodríguez Moreno et al., 2019). The teacher can effectively incorporate technology by organising a range of activities to meet the learning objectives of learners using the TPACK framework. Because of this, it is imperative that educators possess the abilities and know-how needed to properly incorporate technology into their classes by utilizing the TPACK framework. Teachers should apply the TPACK model in a way that directs the growth of both the teacher and the learner in order to evaluate how effectively learners have adapted to utilizing technology. The topic learning objectives of the

curriculum should be reflected in the structure and alignment of teachers' plans (Angeli et al., 2015).

2.9 Challenges of implementing ICTs in the classroom

The methods that ICT is utilised to enhance teaching and learning are something that teachers need to be fully aware of (Enrique, 2019; Park, 2022). A vision gives us a place to begin, a goal to work towards, and a destination to reach on the path. Teaching professionals and educational institutions should make a strategy before investing a large sum of money on gear and software. Stated differently, innovations cannot succeed unless users of technology actually feel they are useful (Park, 2022). To develop a strong technology-infused pedagogy, educators must have the chance to observe, investigate, consider and discuss what they do in relation to their ICT usage (Park, 2022). The process of integrating ICT into conventional education is quite intricate. There are several issues in using ICT to improve teaching and learning. If teachers lack the abilities to filter content for relevance or are unable to build a cohesive organisational idea, the almost infinite chances for information access in an educational setting may potentially be a risk factor for information overload (Dube, 2020). It is likely that neither teachers nor learners have the skills necessary to gather, evaluate and apply information (Raman & Yamat, 2014). The teachers have defined the hurdles stopping teachers from employing ICT in the classroom using numerous categories.

ICT integration into teaching on a regular basis is an extremely difficult task. Teachers are still prevented from utilising ICT in the classroom by a number of barriers (Phale et al., 2021). A barrier is anything that makes progress or achieving an objective difficult (Almanthari et al., 2021). Multiple categories have been used to classify the difficulties instructors face while implementing ICT in the classroom (Zyad, 2016). Some scholars have classified barriers into two primary categories: extrinsic and inner difficulties. Zyad (2016) distinguished first-order extrinsic barriers as access, time, resources, support and training, and second-order internal barriers as attitudes, beliefs, habits and resistance. First-order extrinsic barriers included things like time, money, resources, training and other constraints; second-order internal barriers included things like resistance, attitudes, beliefs and behaviors. Extrinsic barriers are those that are connected to organizations rather than individuals, whereas intrinsic barriers are those that are associated with educators, administrators and other individuals (Raman & Yamat, 2014). Several additional researches have distinguished between two types of obstacles: obstacles at the school level and obstacles at the teacher level. Depending on whether they are institutional (barriers at the school level) or personal (barriers at the teacher level), the barriers are classified as follows: inadequate training in problem-solving techniques

and restricted access to resources, insufficient confidence, time constraints and resistance to change (Zyad, 2016).

Although research has established the benefits of utilising ICT in the classroom, there are hurdles or problems connected with its adoption. Additional obstacles as seen from the perspective of learners, include a lack of academic advisers, a lack of timely feedback from teachers, a lack of fundamental technical skills that restrict access to ICT in the classroom and a decrease in connection with classmates and teachers (Chetty et al., 2014; Hawes et al., 2019; Nilson, 2016). Most teachers require more than just access to technology if the benefits of ICT are to be fully realised (Nilson, 2016). Using ICTs into the Business Studies learning processes, teachers confront several challenges when it comes to ICT implementation:

2.9.1 Schools with limited technical support / resources

There are several challenges to overcome when using ICT in the classroom, especially at schools with little funding and technical assistance (Johnson et al., 2016). Although there is much that technology can do to improve teaching and learning, a lack of infrastructure can make integration difficult (Johnson et al., 2016). Inadequate software, antiquated technology and unreliable internet connectivity not only restrict the range of educational opportunities but also worsen already-existing disparities between schools and learners (Cullum, 2024). Lack of qualified staff to help teachers integrate technology properly is one of the biggest problems facing schools with little technological assistance. According to research, teachers must get continuous professional development in order to feel comfortable utilizing ICT in the classroom (Ertmer & Ottenbreit-Leftwich, 2013). Teachers may find it difficult to use new technology if they don't receive enough training and assistance, which might cause them to become frustrated and use less resources (Shifflet & Weilbacher, 2015). This disparity can create a loop where teachers are less inclined to integrate technology in their instruction, thereby perpetuating the digital divide (Shifflet & Weilbacher, 2015). Furthermore, obsolete or insufficient technology is frequently the consequence of a lack of funding. According to a National Center for Education Statistics research from 2021, many schools continue to utilize outdated computers and have restricted access to high-speed internet, which can seriously hinder the utilization of contemporary teaching resources (Faturoti, 2022).

This problem impacts the opportunities for learners as well as their capacity to acquire the fundamental digital skills required for success in the workforce of the twenty-first century (Wong, 2019). As a result, schools with little funding could find it difficult to keep up with technology improvements, which would be detrimental to their learners. Furthermore, educators as well as learners may get more frustrated with the lack of a strong technological

foundation. Technology interrupts learning and reduces its potential advantages when it malfunctions or is hard to use. Ifenthaler and Schweinbenz's (2018) research highlights that uneven access to technology might result in unfavorable perceptions about its use, which eventually deters educators and learners from using digital resources. This limits the potential for innovation and new teaching methods, and fosters an atmosphere where the promise of ICT stays unfulfilled.

Implementing and integrating technology into teaching and learning is extremely difficult for schools with little funding and technical help (Lawrence & Tar, 2018). These restrictions can have an impact on teaching effectiveness, learner engagement and overall educational results in addition to impeding the use of ICT technologies. Effective technology usage is hampered by the fact that many schools lack enough hardware, essential software and dependable internet connectivity (Lawrence & Tar, 2018). According to research, schools with inadequate technology infrastructure find it difficult to execute digital learning programs, which puts children at a disadvantage in the digital divide (Wang et al., 2020). Teachers could find it difficult to include ICT tools in their lesson plans without the fundamental resources required for technology integration, which would restrict the opportunity for learners to engage in digital learning (Ruggiero & Mong, 2015). Without a dedicated IT team, schools frequently struggle to maintain equipment, debug technological problems and give instructors the training they need (Ruggiero & Mong, 2015). Teachers' desires to utilize technology in the classroom was shown to be negatively influenced by their perception of lack of assistance when faced with technological difficulties, according to a study done in rural parts of the United States (Cox et al., 2019). In addition to making teachers frustrated, a lack of technical assistance reduces the potential advantages of technology for learner learning.

It is unrealistic to expect teachers to overcome the obstacles preventing them from using ICT without resources available to the entire school as well as professional technical support in the classroom (Ghavifekr et al., 2016). Lack of technical assistance is one of the main barriers to ICT adoption in education, according to secondary school teachers. Teachers are seen to have major challenges as a result of technological problems (Ferri et al., 2020). According to Ferri et al. (2020), some examples of these technical challenges included waiting for webpages to load, experiencing difficulty connecting to the Internet, having printers that wouldn't print, having malfunctioning computers and requiring instructors to utilise antiquated computers. Technical difficulties prevent the lesson from being delivered smoothly or the classroom activities from flowing naturally. According to various research, one of the obstacles to utilising technology in teaching is a lack of technical assistance (Emre, 2019). ICT integration in the classroom may be challenging in the absence of a technician as there will not be any technical support (Emre, 2019). Although most teachers are in favor of using

laptops in the classroom, they were concerned that they could experience problems with the hardware or the technical assistance, which would make it challenging for them to conduct lessons in an efficient manner (Azmi, 2017). Using technology successfully and efficiently is impacted by the availability of the newest and best hardware and software resources. Developing countries must provide a large amount of infrastructure, funding and assistance, (Azmi, 2017), but it is not happening.

2.9.2 Lack of ICT training

Teachers' lack of training makes it difficult for them to use ICT in the classroom. According to a recent Turkish research, inadequate in-service training is the biggest obstacle preventing teachers from integrating modern ICT in the classroom (Basak & Govender, 2015). Training is a difficult topic since there are a lot of factors to take into account to make sure it's effective. These determinants include the length of training, pedagogical training, skills training and the usage of ICTs during initial teacher training (Basak & Govender, 2015; Raman & Yamat, 2014). Another barrier to the effective use of ICT in rural education is a lack of experience. Formal ICT training is uncommon among practicing instructors. Moreover, teachers utilizing ICT in the classroom have very little regular access to high-quality training (Basak & Govender, 2015). Professional development is crucial for equipping teachers to utilize technology successfully, but staff members sometimes do not have enough training opportunities in underfunded institutions. Studies have indicated that continuous professional development is crucial in promoting instructors' self-assurance and proficiency in using ICT technologies (Kraft et al., 2020). Lack of professional development can prevent instructors from having the skills needed to effectively incorporate technology into their curricula, which can result in underuse of resources and a failure to realize the full potential of technology.

More than only ICT usage instruction, instructors must obtain pedagogical training (Guma et al., 2013). Guma et al. (2013) state that if teachers are to be convinced of the advantages of using ICT in the classroom, training should focus on pedagogical issues. Even after taking ICT-related professional development courses, teachers were still unable to use the technology in the classroom. Rather, their knowledge was limited to computer operation and printer configuration (Wang et al., 2014). This is because the courses seldom cover how to use ICT for pedagogical reasons and only partially concentrate on assisting teachers in gaining basic ICT skills (Wang et al., 2014; Islam, 2020; Tshelane, 2017). These consist of teaching sessions, pedagogy and skill training, as well as an introduction to ICT for teacher preparation. Pedagogical training is far more important for teachers than training on ICT technologies alone (Islam, 2020; Tshelane, 2017). According to Cox et al. (1999), teachers

should get pedagogical issues-focused training if they are to be persuaded as to the benefits of integrating ICTs into their lessons.

2.9.3 Limited time

One of the major challenges to successfully incorporating ICT into classroom education is time constraints (Ghavifekr et al., 2016). Due to their busy schedules and dense curriculum, teachers sometimes find it challenging to integrate new technology into their lesson plans (Ghavifekr et al., 2016). This difficulty may result in a cursory knowledge of ICT resources, which keeps educators from seeing how fully they might improve the education of learners (Padayachee, 2017). One of the main reasons that time constraints are problematic is the demand to cover large curriculums in a condensed academic year. Research by Hattie (2017) found that the depth of learning can frequently be eclipsed by the quantity of material that teachers are expected to teach. Teachers may feel that they don't have enough time to properly investigate and apply ICT when they are preoccupied with achieving curricular requirements and getting learners ready for tests (Gerver, 2014). As a result, technology may be perceived as an extra burden rather than a useful instrument that promotes learning (Gerver, 2014). Moreover, ICT integration frequently necessitates time set aside for preparation and implementation. In addition to being comfortable with the technology, educators need to design lesson plans that make efficient use of these resources (Wyn et al., 2014). According to a van der Meijden and Veen (2019) study, insufficient time for lesson planning frequently leads to uneven usage of technology in the classroom. Teachers may turn to superficial technology use, weakening the potential of technology to engage learners and improve their learning experience, when they are unable to allot enough time for real integration of ICT.

Research indicates that while a lot of teachers are proficient and self-assured in using computers in the classroom, they frequently neglect to do so due to time constraints (Ghavifekr et al., 2016; Guma et al., 2013; Wang et al., 2013). The most common issue is that teachers lack enough time to create technology lessons, explore the Internet, or look into different aspects of educational software (Darling-Hammond et al., 2014). In many aspects of their work, teachers struggle with time constraints, which limits their ability to complete tasks and increases the amount of time needed for ICT-related activities (Darling-Hammond et al., 2014). They include the time needed to look out for internet resources, develop courses, practice using technology, experiment with it and fix technical problems (Johnson et al, 2016; Nilson, 2016). In schools, teachers are usually responsible for more than just instructing learners. In addition to teaching ICT, they also have to teach every conceivable subject. Insufficient time prevents them from creating, developing and utilising technology in the classroom. Teachers

need time to collaborate with other teachers, learn how to use hardware and software and keep up with emerging technologies (Johnson et al, 2016; Nilson, 2016).

2.9.4 Load shedding

The term load shedding describes the purposeful lowering of energy supply in order to balance available power and demand (Masibi, 2015). It affects every South African person, either directly or indirectly. Beginning in late 2007, this issue has grown more serious until it reached a crisis point in 2023 (Eskom, 2003-2012). Electricity powers the machinery and gadgets that run a variety of industries, making it a necessary resource for the economy's daily operations (Abraham, 2015). The amount of megawatts required by Eskom, the national power 330 utility, to bring the energy grid back into balance determines how severe a load shedding would be (Mackay et al., n.d). According to the load shedding information sheet dated December 2019, there are eight different load shedding levels, with the higher stages denoting longer and more severe power disruptions (Raphoolo, 2019). In addition to having a direct impact on schooling, load shedding impedes South Africa's economic development. In order to control a power deficit in the whole electrical system, load shedding is the deliberate cutting off of energy supply to certain areas or consumers (Kazmi et al., 2019).

According to Kucuk (2018), load shedding happens when the power supply is insufficient to satisfy the demands of the process loads. In South Africa, load shedding continues to be a major danger to education. Numerous issues, including insufficient capacity for electricity generation and concerns about infrastructure, have led to frequent power outages and load shedding across the country (Matsheta et al., 2023). Literary People's lives are severely disrupted by load shedding, especially in educational settings. Power outages throw homes and institutions into complete darkness, and unscheduled load shedding throws routines off and lowers academic performance. Power outages have a major effect on learners, particularly while they are preparing for exams (Jianjun et al., 2018). Long-term power outages impair electrically-dependent learning processes like computer-based learning and studying. Electric load shedding disrupts regular operations, resulting in incomplete work and negatively affecting learners' academic and health outcomes. It interferes with the daily activities of learners and impairs their eyesight, which undermines the human capital of the country (Khan et al., 2022).

2.10 Advantages of using ICT tools in the classroom

Technology-based teaching and learning offers a range of engaging techniques, including mind mapping, guided exploration, instructional videos, stimulation, data storage, database usage and brainstorming, to make learning more fulfilling and meaningful (Ghavifekr & Rosdy,

2015). When resources are not a barrier, learners can benefit from ICT integration and improve their understanding of the material through practical exercises in a technology-based course (Alenezi, 2017). It also helps teachers design successful, creative and interesting lesson plans that motivate learners to participate in their education. According to earlier research, incorporating ICT into the classroom enhances learner learning and maximises their potential for active learning (Singh, 2019). ICT technologies may increase learners' attention by presenting content in new ways that make learning more engaging and dynamic. By reducing paperwork and enabling more one-on-one contacts with learners, ICT technologies help teachers achieve a better work-life balance (Handerson, 2020).

Numerous scholars contend that information technology has the power to affect the drive of learners to study, to grab their interest and focus and to guarantee more participation and engagement in the classroom (Shifflet & Weilbacher, 2015). Positive attitudes from learners are more likely to be shown when computers are employed in the classroom (Heflin & Nguyen, 2017). Speaking with native speakers from various nations has increased their motivation and interest (Heflin & Nguyen, 2017). ICT utilisation may offer a classroom setting that enhances and sustains motivation. In the language classroom, motivation and engagement are raised via the use of blogs, podcasts and digital videos as instructional materials (Kessler, 2018). Jay (2016) looked at the usage of blogs as a writing incentive for learners and made clear the value of both providing learners with a real audience and writing for a global one. Learners can cultivate a positive attitude towards language learning through the use of ICT in language classrooms (Azmi, 2017). The majority of learners believed that ICT stimulates them to become more engaged in the educational process. Teachers that incorporate more real content (such as blogs, podcasts and digital films) and give learners the tools they need to approach it may ensure higher involvement and engagement in the classroom, develop meaningful conversation and boost learner excitement (Azmi, 2017).

Because of the ease and enjoyment with which learners may now study in the classroom, technology has been used more often (Ciampa, 2014). Teachers and educational institutions are using AR/VR technology, AI-based tools and gadgets to fully immerse learners in the learning process (Ciampa, 2014). The children are finding the classes and homework to be more engaging. Without a doubt, this improves their academic performance and grades (Domingo & Garganté, 2016). That being said, technology is incredibly important to education. It consists of machines, computer networks, media, and communication. New pedagogies have evolved as a result of ICT use in education (Alemu, 2015). The technology methods that are being utilised in education are always evolving and include web-based education, cloud-based education, blended learning, multimedia in the classroom and e-learning (Alemu, 2015). As computers became more advanced, the use of computer-aided education to help teaching

and learning evolved. A specific target population was educated through the use of specially created learning resources. Information technology may be used to create educational content, and communication technologies may be used to distribute it (Kumar, 2024).

Online materials and information can be updated and expanded quickly, but printouts like books and periodicals cannot do this (Matthew et al., 2021). learners are encouraged to take an active role in their education by integrating ICT into critical thinking and learning. For example, when assigned a topic for discussion, learners can utilize search engines such as Google or Yahoo to research resources and opposing viewpoints (Cuban & Jandric, 2015). Every search might yield fresh results, which could inspire learners to start conversations and work together. As a result, learners are better able to comprehend the material thoroughly. The learners compare and research the questions that are crucial to their coursework's achievement using pertinent data and ICT resources. Learners find these tools to be intriguing and engaging as well (Zafar et al., 2014). For instance, a PowerPoint presentation is more effective and participatory than the conventional chalkboard method of instruction. Conventional paper-based institutions have started to provide electronic-based services including online applications, information access and outcomes that previously required customers to physically be present for years (Gros, 2016). Prospective learners from all over the world can now inquire and start the application process at anytime, anywhere, thanks to this new line of e-service offering (Zafar et al., 2014).

2.11 Theoretical framework

According to Rotondo et al. (2023), a theoretical framework is the structure that encapsulates an inquiry study's philosophy. When a theory, or theories, are used in a study to communicate the main hypotheses of the researchers, a theoretical framework is developed (Michailova et al., 2023). Moreover, according to Michailova et al. (2023), it offers a signal or lens that is expressly designed to be used in analysing incoming data for the study. In this research the theoretical framework utilised to investigate teachers' attitudes regarding the use of ICT tools in Business Studies classes is called the Technology Acceptance Model (TAM). Fred Davis created the TAM in 1989 to explain how people come to embrace and use technology. According to TAM, a person's decision to accept technology is primarily influenced by two factors: perceived utility (PU) and perceived ease of use (PEOU). Perceived utility is the conviction that technology improves work performance or productivity, whereas perceived ease of use is the degree to which an individual feels that utilizing a specific technology would involve little effort (Davis, 1989).

TAM tries to shed light on the dynamics driving technological acceptance. This model describes why a user could embrace or reject information technology based on beliefs,

attitudes and willingness to utilise it. An example of the original TAM, which Davis submitted for the first time in 1989, is shown in Figure 2.2.

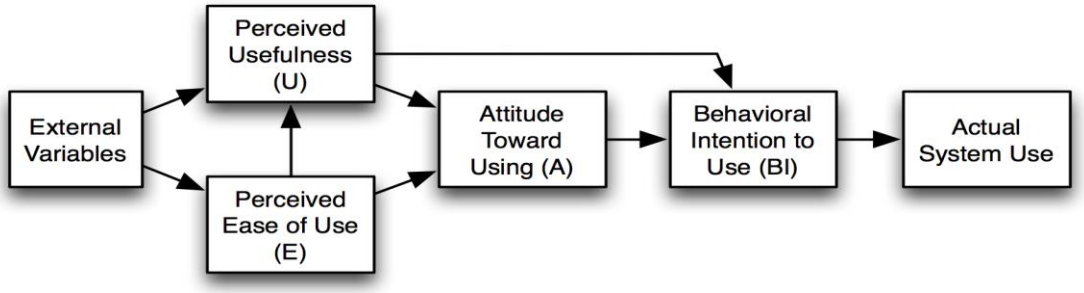

Figure 2.2: Original technology acceptance model (Davis, 1989)

Perceived utility (PU) and perceived ease of use (PEU) are two intellectual assumptions that the TAM model proposes (Davis, 1989). According to Davis (1989), perceived utility refers to how much a technology user thinks using the tool would improve their performance at work, while perceived ease of use refers to how the user utilises a specific tool. This study will shed light on how teachers feel about using technology in business studies classes by examining the perceived value, simplicity, attitudes, external factors and actual use (Marikyan et al., 2023). Teachers' adoption of ICT is largely dependent on how simple they perceive it to be to use. Research shows that when it comes to adopting technology in the classroom, teachers frequently experience frustration due to a lack of assistance and training (Sadaf et al., 2020). Teachers may see ICT as a burden rather than a useful tool if they do not receive enough professional development or if they find the technology difficult to use. Schools must thus give top priority to training programs that provide educators the know-how and self-assurance to successfully incorporate technology into their teaching. Teachers' views regarding ICT have a big influence on whether or not they are willing to use technology in the classroom. Researchers can investigate how instructors see the usability and convenience of use of ICT technologies by utilizing TAM. For example, teachers' adoption and usage of educational software and digital resources are likely to rise if they feel that utilizing them is simple and involves little work (Alharbi & Alshammari, 2020). On the other hand, if educators face difficulties utilizing technology, they could get resentful and find it difficult to integrate ICT into their lessons. Teachers' attitudes about ICT may be influenced by external variables, even if TAM concentrates on perceived usefulness and ease of use. The experiences of educators are greatly influenced by institutional support, which includes resource availability and dependable technology infrastructure (Huang et al., 2021). Furthermore, teachers' views of

ICT can be improved by peer pressure and teamwork, as good experiences within a professional learning community can foster greater acceptance.

Teachers' views about ICT in the classroom can be better understood by using the framework that the Technology Acceptance Model offers. Researchers and educators can evaluate perceived utility and simplicity of use to see what factors encourage and hinder the adoption of new technologies. Promoting a positive attitude among instructors requires improving training programs, showcasing the value of ICT and offering institutional support. Gaining this understanding is essential to boosting learner learning outcomes and the effectiveness of technology integration in the classroom.

2.12 Conclusion

In this chapter, I reviewed the current literature on the use of ICTs in the classroom, with a particular emphasis on the subject of Business Studies. The literature study opens with an overview of ICTs, emphasising their transformational potential in educational contexts. ICTs include a variety of digital tools and resources that help people communicate, collaborate and obtain information. This section stresses the need for using technology in teaching techniques, especially in a quickly changing educational setting where digital literacy is critical for learner success. Following the introduction, I present an in-depth overview of the research on teachers' views on the use of ICT tools in the classroom. Understanding these attitudes is crucial because they have a big impact on how educators use technology in their teaching. The study focuses on research that shows a range of teacher viewpoints, from enthusiasm and support for ICT integration to skepticism and opposition. Additionally, I address instructors' pedagogical assumptions, which affect their approaches to teaching and learning. The interaction of attitudes and pedagogical beliefs generates a complex environment that influences the successful application of ICT in educational settings.

The discussion then moves on to particular ICT technologies commonly used in the classroom, such as smartboards, computers and projectors. Each of these instruments has a unique purpose in improving teaching and learning experiences, notably in Business Studies. Smartboards, for example, provide interactive classes in which learners actively participate, and laptops allow access to a plethora of materials and collaboration tools. Projectors allow for the visual display of information, making classes more engaging and accessible. By evaluating these technologies, I demonstrate how their successful usage may lead to increased learner engagement and learning results, as well as the instructional practices that best utilise their capabilities. However, integrating ICTs into the classroom is not without obstacles. I discuss various challenges that teachers encounter when deploying these technologies, including infrastructure restrictions, a lack of training and inadequate support.

These issues are especially acute in under-resourced settings, such as South African township schools, where access to technology may be severely limited. By recognizing these hurdles, I underline the need for tailored interventions and support structures that may help teachers overcome these challenges and effectively incorporate ICT into their teaching methods.

In the final section of the chapter, I evaluate the current state of ICT tools in South African township schools. This analysis demonstrates a dramatic contrast between the potential of ICTs and the realities confronting educators and learners in these contexts. Limited access to technology, along with insufficient training and resources, impedes the efficient use of ICT in the classroom. This conversation emphasises the need for resolving these inequities so that all children can benefit from technology-enhanced learning opportunities. Finally, I discuss the theoretical framework that underpins the current investigation, relating it to the previously studied literature. This paradigm provides a lens through which to examine the intricate links between teachers' attitudes, pedagogical beliefs and their use of ICT technologies in the classroom. By placing my study within this theoretical framework, I hope to give a better understanding of the elements that drive ICT integration in education. This link between theory and literature not only enhances the study, but also creates the framework for future research and practical applications in educational technology.

Chapter 3: Research design and methodology

3.1 Introduction

In this chapter, I discuss the methodology and strategies used to examine and answer the present study's research questions. By offering a full explanation of the strategic decisions taken during the design, execution and analysis stages, I hope to provide readers with a clear path for understanding the research process. This chapter serves as a complete guide, demonstrating how each option adds to the study's overall integrity and rigour. By detailing these procedures, I ensure the study is transparent and reproducible, allowing subsequent studies to expand upon my work. The interpretative paradigm serves as the foundation for the study's philosophy. This paradigm is especially significant since it stresses understanding the world via the subjective experiences of people (Daud, 2014). In the context of this study, the interpretative method allows for a more nuanced examination of teachers' attitudes and views on the use of ICT in the classroom. This philosophical lens acknowledges that knowledge is formed via social interactions and human experiences, resulting in a rich framework for reflecting the intricacies of teachers' viewpoints (Bryman, 2021).

I then discuss the qualitative research methods used in the study. This study adopts a phenomenological approach, allowing for an in-depth exploration of teachers' lived experiences and attitudes towards ICT integration in Business Studies education (Lawson, 2016) . Using a qualitative research approach, I hope to collect rich, descriptive data that conveys the intricacies of participants' perspectives. This method is especially useful in educational research, where understanding the context and significance of educators' ideas is critical for reaching meaningful results (Lawson, 2016). After discussing the technique, I offer the research design. The design defines how the study was structured, as well as the particular data gathering methods used (Preisig, 2015).

Next, I describe the sampling strategies utilised to identify research participants. A purposive sample technique was used to find teachers who had relevant knowledge on the use of ICT in their teaching practices. Participants were selected using a purposive sampling technique, ensuring that teachers with varying levels of experience in ICT integration were included. Criteria for selection included: (1) experience in Business Studies teaching, (2) active use of ICT tools such as smartboards and projectors, and (3) willingness to share insights on ICT integration in teaching.

This technique assures that the selected participants can offer useful information on the study questions. By carefully selecting volunteers who are representative of the larger public, I want to increase the study's credibility and gather varied opinions. Data collecting methods are

afterwards described, focusing on the numerous strategies utilised to obtain information from participants. Semi-structured interviews were the major method of data gathering, allowing for freedom while also directing the discourse towards crucial topics. Furthermore, observations and document analysis supplemented the interviews, offering a comprehensive picture of the classroom environment and ICT use. This triangulation of data sources enriches the findings and improves the study's overall validity by allowing for cross-verification of data.

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3.2 Research philosophy

3.2.1 Ontology

Research philosophy is the collection of ideas and assumptions that govern how information is created and interpreted in research (Lawrance & Tar, 2018). It sets the framework for the research process, impacting technique selection, data collecting, and analysis (Bryman, 2021). Research philosophy influences how researchers see reality, gain information, and decide what is significant in a study (Creswell & Poth, 2018). Research philosophy establishes the foundational beliefs that guide a study. It comprises ontology (the nature of reality), epistemology (the nature of knowledge), and axiology (the role of values in research) (Schwandt, 2020).

In qualitative research, the term "ontology" relates to the presumptions and convictions on the nature of existence and reality that guide a researcher's method of comprehending events. It entails investigating what reality is and how different perspectives and interpretations of reality may be made of it (Bryman, 2021). Ontological factors influence how researchers understand the subjects of their studies in qualitative research, which affects the questions they pose and

the techniques they use. Ontology is an effective tool for researchers to assess their degree of certainty on the nature and existence of the objects they are researching (Levers, 2013). For example, realist ontology holds that human experience is not the only reality that can be investigated, comprehended and experienced as a "truth"; in other words, there is only one genuine cosmos that exists (Levers, 2013). Conversely, the tenet of relativist ontology is that there is a single "true" reality that is produced by the mind. Instead, reality is "relative" to how individuals see it in any given circumstance and place (Kant, 2014). Qualitative ontology in research deals with the nature of reality and how it is understood within the parameters of qualitative research methods. Ontology addresses the fundamental question of what reality is and how researchers perceive and comprehend it in qualitative research (Epstein, 2016). According to Kant (2014), ontology plays a significant role in determining a researcher's viewpoint on reality and the essence of existence in the social world in qualitative research. Researchers usually deal with the complexity of human experiences when employing a qualitative approach. The reality in this study is the use of ICTs in two Business Studies classrooms from two different schools. Both the classes have ICTs that teachers use in order to teach and present their lessons.

3.2.2 Epistemology

What constitutes a knowledge claim, how knowledge may be formed or acquired, and how to assess the degree of its transferability are just a few of the topics covered by epistemology. It also addresses the validity, breadth and methods of acquiring knowledge (Donnison et al., 2021). According to Donnison et al. (2021), epistemology is of great importance since it dictates the manner in which scholars organise their research in order to gain knowledge. By analysing the relationship between a subject and an object, we may check how the idea of epistemology influences research design. Objectivist epistemology holds that reality exists outside of or apart from each individual's awareness (Kant, 2014). Objectivist research yields two benefits: reliability, or the consistency of the results, and external validity, or the ability to adapt the findings to different contexts (Kant, 2014). Constructionist epistemology rejects the presumption that there is objective truth out there, ready to be discovered. Rather, truth, or meaning, comes from the experiences we have with the reality of the outside world. To put it in another way, neither symbolic language nor human action exist before the real world (Levers, 2013). Contextual understanding of a particular problem or topic is produced by constructionist research, which makes it valuable. Subjectivist epistemology holds that reality can be explained using a range of symbol and language systems and may be conformed to each person's requirements in order to enable them to give the world meaning and understand it in a way that makes sense to them (Matthew et al., 2021).

Understanding various ontologies and epistemologies is critical for developing my study's strategy, methodology, data collection, and analysis. Because my research focuses on teachers' attitudes towards ICT integration in Business Studies courses. My choices in ontology and epistemology influence how I interpret teachers' experiences and views. I acknowledge that teachers' attitudes towards ICT are shaped by their personal experiences, school environment, and access to resources. I focus on rich, descriptive data rather than statistical measurements. My research aims to understand how teachers interpret their own use of ICT rather than assuming a universal influence.

3.2.3 Interpretivism

The interpretive paradigm is centered on making sense of the world via individuals' subjective experiences (Daud, 2014). When using meaning-oriented (as opposed to measurement-oriented) methods like participant observation and interviews, interpretivists make use of the subjective relationships that exist between the researcher and participants. Because interpretivism requires researchers to interpret study components, it integrates human interest with research (Daud, 2014). Interpretivism, according to Daud (2014), entails researchers interpreting certain study components, which incorporates human interest. Hence, "interpretive scholars think that social constructions like language, awareness, shared meanings and tools are the sole methods to access reality given or socially constructed" (Moon & Blackman, 2014).

A qualitative research paradigm called interpretivism is concerned with comprehending people's subjective experiences and meanings in relation to their social environments. This method stands in stark contrast to positivism, which uses statistical analysis and measurable facts to search for objective truths. Interpretivism stresses the significance of context in forming personal viewpoints and acknowledges that cultural, social and historical elements have an impact on human behavior (Creswell & Poth, 2018). By using this paradigm, researchers seek to understand the nuances of human behavior and the different meanings that individuals ascribe to their experiences (Cresswell & Peth, 2018). The idea that knowledge is essentially subjective and is formed via social interactions is at the heart of interpretivism. According to this viewpoint, people's interpretations of reality are shaped by their experiences, backgrounds and beliefs. For this reason, while assessing data, researchers must take these contexts into account (Schwandt, 2020). In actuality, interpretivist researchers frequently collect rich, descriptive data using qualitative techniques like focus groups, interviews and ethnography (Thorne, 2014). By letting participants communicate their ideas and emotions in their own words, these techniques help participants get a deeper understanding of their actual experiences (Thorne, 2014).

In interpretivist research, the researcher's part is equally important. During the study process, researchers are urged to reflect on their own biases and influences and to connect intimately with participants (Flick, 2018). This reflexivity makes sure that the results are based on the realities of the participants rather than only reflecting the viewpoints of the researchers (Flick, 2018). Interpretivist researchers strive to co-construct knowledge with participants by creating a collaborative atmosphere, which produces findings that are richer in context and have greater significance (Borko, 20220. Interpretivism's emphasis on comprehending the complexities of human experience has led to its popularity in a number of disciplines, including psychology, sociology and education (Moon & Blackman, 2014). For instance, interpretivist methods in educational research shed light on how educators and learners negotiate the intricacies of classroom settings, especially when it comes to technology use (Borko, 2022). Interpretivism emphasises the significance of context in influencing human behavior and advances a more sophisticated view of social processes by giving individual experiences a higher priority (Borko, 2022).

According to subjectivist epistemology, individuals can impose their own meaning on the world and interpret it in a way that makes sense to them. This is because reality can be expressed in a variety of symbols and language systems (Moon & Blackman, 2014). Subjectivist research is important because it shows how a person's experiences shape their perception of reality (Neubauer et al., 2019). According to interpretivist ontological and epistemological viewpoints, reality is complex and contingent. Interpretivists employ more tailored and flexible study structures that are able to interpret what is perceived as reality and are receptive to interpreting meanings in human interaction, as opposed to positivist researchers who use rigid structural frameworks (Junjie & Yingxin, 2022).

The interpretivist researcher feels that as reality is fundamentally complex, multifaceted and unpredictable, even while they have some prior knowledge about the study environment before entering the field, this knowledge is insufficient to create a predetermined research strategy (Junjie & Yingxin, 2022). With the aid of informants, the researcher maintains an open mind throughout the inquiry and permits fresh knowledge to surface (Neubauer et al., 2019). Using such an emergent and collaborative strategy is congruent with the interpretivist perspective, which maintains that individuals may adapt and that no one can learn ahead of time about social realities that are bound by time and environment. Therefore, interpretivist research attempts to comprehend and interpret the meanings in human activity rather than broadening and forecasting causes and outcomes (Neubauer et al., 2019).

3.2.4 Constructivism

According to the learning theory known as constructivism, people build their own knowledge and understanding of the world by reflecting on and gaining experiences (Devi, 2019). This method highlights the idea that learning is an active process in which learners connect with their surroundings, communicate with others and integrate new information into their own cognitive frameworks (Brusilovsky & Millán, 2019). The foundation of constructivism may be found in the theories of researchers like Jean Piaget and Lev Vygotsky, who examined how people acquire cognitive skills and how social interactions affect learning (Devi, 2019). New information can be constructed atop this basis of existing knowledge. As a result, under a constructivist framework, linking new concepts to learners' existing experiences and knowledge is typically a successful teaching strategy. For instance, inquiry-based learning and project-based learning are frequently employed to motivate learners to investigate real-world issues and work together to find answers, promoting greater comprehension via active participation (Brusilovsky & Millán, 2019).

The importance of social contact in the learning process is another important constructivist tenet. The "Zone of Proximal Development" (ZPD), as proposed by Vygotsky, emphasises the value of social environment and group learning. Higher degrees of comprehension can be attained by learners working with peers or mentors who offer support and advice, in accordance with Vygotsky (Shabani et al., 2010). Learners can debate one another's views, express their own opinions, and come to a shared understanding of difficult issues through this interaction (Wood et al., 2019). Constructivism additionally points out the value of a nurturing environment for learning. Teachers are urged to design learning environments that stimulate investigation, dialogue and introspection. This might entail fostering a culture of inquiry and curiosity as well as employing a variety of teaching techniques that cater to different learning preferences. Teachers may improve the learning process and assist learners in becoming more independent and self-directed learners by creating a secure environment where they feel comfortable taking chances and making errors (Dewey, 2020). In the end, constructivism emphasises the active role learners play in their educational journeys and provides a strong framework for understanding how individuals learn.

The constructionist epistemology rejects the notion that there is an objective "truth" that is only waiting to be discovered (Moon & Blackman, 2014). Rather, "truth" or significance comes from our engagement with the reality of our surroundings (Miller, 2016). In other words, human behavior and symbolic language are essential to the existence of the real world (Freeman & Jones, 2018). Through the development of contextual understandings of a particular topic or circumstance, constructionist research offers value. Interpretative categories come before

facts, knowledge is made rather than discovered, and knowledge is socially and personally formed. Truth is limited as opposed to certainty, and provisional as opposed to foolproof (McWilliams, 2016). Knowledge does not disclose an impartial, independent universe; rather, it provides us with constructs or frameworks through which we interpret experience (Moon & Blackman, 2014). Thus, constructivism serves as a useful counterbalance to the various manifestations of grey materialism, such as positivism, empiricism, Marxism and behaviourism, which aim to downplay the importance of interpretative scientific structures, the theory-dependence of observation, the productive canons of discourse, and the power of the mind in the active pursuit of knowledge (McWilliams, 2016).

Constructivism emphasises that knowledge is actively constructed rather than passively received. This justifies my choice of a qualitative research approach, where I explore teachers' individual experiences, perspectives, and beliefs rather than relying on numerical data. My study does not aim to measure ICT integration but rather to understand how teachers interpret and interact with technology in their classrooms. Since social interactions shape learning, I used semi-structured interviews to allow teachers to share their personal experiences of using ICT. This method ensures that participants actively construct and articulate their views, rather than just responding to pre-defined survey questions. Observations were used to see how teachers interact with technology in their real teaching environments, supporting the constructivist view that learning happens in context.

3.3 Research methodology

The methodical process of gathering, evaluating and interpreting data in a study is known as research methodology (Kapur, 2018). It includes the researcher's philosophical position; the study strategy and the particular methods used to gather and process data. The study questions will determine which kind of methodology - qualitative, quantitative or mixed - is most suited for answering the questions (Kapur, 2018) For instance, using techniques like focus groups and interviews, qualitative procedures frequently concentrate on comprehending events from a subjective standpoint (Creswell & Poth, 2018). Conversely, statistical analysis is usually used in quantitative approaches to test hypotheses and produce results that may be applied generally (Bryman, 2016). The choice of methodology is important because it affects the validity and reliability of the study findings and helps researchers choose the right instruments and methods for their particular investigations (Flick, 2021). Recent trends stress the relevance of ethical issues and reflexivity within research procedures, arguing for transparent techniques that acknowledge the researcher's effect on the study process (Bourke, 2022). Thus, obtaining rigorous and reliable study results requires a clearly defined research technique.

A research methodology comprises many procedures or standards utilised in the research process together with guiding principles, values and beliefs (Savin-Baden & Major, 2023). For the current study, I have opted to use a qualitative method approach. The term qualitative research refers to a strategy where researchers merely want to solve a problem, bring about a change, or find important themes (Gentles et al., 2015). Information is mostly gathered through conversation and open-ended discussion in qualitative research. This method concentrates on "what" and "why" people think a specific way about things (Rosenthal, 2016). The goal of qualitative research methods is to help comprehend the attitudes and behaviours of a target audience on a certain topic (Mohajan, 2018). Many qualitative research methods are commonly used, such as focus groups, content analysis, ethnographic studies, in-depth interviews and case studies (Mohajan, 2018).

Qualitative data is a subjective evaluation that comprises obtaining and examining non-mathematical information to generate thoughts, judgements and conclusions. It is used to gather information from top to bottom on a subject or to develop new ideas for a study (Schoenfeld, 2016). I picked this technique to obtain teachers' own understanding while also learning about the influence of using ICTs in developing their attitudes and beliefs.

3.4 Research design

A phenomenological research design is a method to understanding people's lived experiences and the interpretations they give to those experiences (Systma, 2021). In this study, phenomenology allows for an in-depth analysis of how Business Studies teachers see and feel the integration of ICT resources (such as smartboards, projectors, and laptops) in their subject (Ogren, 2016). This method focuses teachers' views, feelings, and thoughts above ICT adoption rates, revealing the problems, rewards, and attitudes that influence their interaction with technology (Rashid et al., 2019). The study focuses on Business Studies teachers and their firsthand experiences using ICT tools in the classroom, with the goal of understanding how they manage technology use, what influences their views, and how ICT affects their teaching approaches. Semi-structured interviews allow teachers to express their thoughts, emotions, and personal experiences regarding ICT use, while classroom observations give insight into how teachers utilise ICT in real-world situations. The phenomenological method recognises that teachers' experiences are subjective and influenced by their personal histories, training, and school contexts. It aims to capture individual narratives for a greater understanding of the complex elements influencing ICT adoption (Creswel, 2013). To reduce researcher bias, the notion of bracketing is used, which ensures that the researcher sets aside personal assumptions and focuses on the teachers' real experiences (Maxwel & Chmel, 2014). This study approach gives a deep, descriptive

knowledge of ICT integration from the perspective of teachers, revealing motives and challenges that quantitative research may not detect. The findings can help professional development programs by addressing teachers' genuine needs and concerns about ICT use. Finally, by collecting personal experiences and meanings, this study provides useful insights that may be used to improve ICT training and support practices for educators.

In this study, the ten Business Studies teachers from five schools in Soshanguve formed the sample that will be explored. The schools ICTs that are utilised to present their lessons will be considered. The teachers will be from different age groups, years of teaching experience and levels of education.

3.5 Sampling techniques

School A is a public secondary school in Soshanguve that was established in 2013. It has both concrete built and mobile classrooms and serves learners from Grades 8 to 12. ICTs were introduced three years ago, beginning with laptops for teachers, followed by free internet access and interactive whiteboards. Two teachers were selected for this study, one in his late 20s with three years of teaching experience and another in her late 50s with 30 years of experience. The school does not provide structured ICT training, and the study will explore how different generations of teachers adapt to technology and whether they find training beneficial for ICT integration.

School B is another public secondary school in Soshanguve, established in 2008. It accommodates learners from Grades 8 to 12 and introduced ICTs four years ago. The school provides smartboards in Business Studies classrooms, but ICT training is limited. Two teachers with varying levels of experience, one in her late 20s with four years of teaching and another in her mid-40s with 16 years of experience were selected. The study will investigate how their different levels of teaching experience influence their adoption of ICT tools and whether they find self-directed learning effective in improving their technology skills.

School C is a well-established public secondary school in Soshanguve that has been in operation since 1995. It serves Grades 8 to 12 and implemented ICTs five years ago, equipping classrooms with projectors and smartboards. Two Business Studies teachers were chosen for this study, one in his late 20s with three years of teaching experience and another in her early 60s with over 30 years of experience. While the school offers occasional ICT training workshops, participation is voluntary. This study aims to determine whether structured training influences ICT adoption and how teachers with different career lengths perceive and use technology in their teaching.

School D is a public school in Soshanguve that was founded in 2000 and caters to learners from Grades 8 to 12. ICTs were introduced six years ago, with all Business Studies classrooms equipped with laptops and projectors. Two teachers were selected, one in his early 40s with 15 years of experience and another in his late 50s with more than 28 years of experience. The school organises periodic ICT training sessions, but attendance is not mandatory. The study will examine how teaching experience affects ICT adoption and whether teachers believe that voluntary training is sufficient for effective technology integration.

School E is a public secondary school in Soshanguve that has been operating since 2010. It accommodates Grades 8 to 12 and integrated ICTs into teaching and learning five years ago. Business Studies teachers are provided with laptops and access to digital learning resources. Two teachers were chosen for this study, one in her early 30s with seven years of experience and another in her late 40s with over 20 years of teaching experience. While the school offers structured ICT training, it is conducted only once a year. The study will explore whether infrequent training influences teachers' confidence and willingness to incorporate ICT tools into their lessons.

In research, sampling strategies are crucial because they dictate the process of choosing participants from a population. The validity and trustworthiness of the study's conclusions might be considerably influenced by the sampling strategy used. Sampling techniques fall into two basic categories: probability sampling and non-probability sampling. Each category has a variety of approaches that are appropriate for different types of research objectives. A sample is a portion of the population that is selected so as to get information about the full population (Vehovar et al., 2016).

3.5.1 Purposive sampling

A qualitative research method called purposive sampling is used to choose a certain group of people or units for analysis (Hennink et al., 2020). Individuals are selected "on purpose," as opposed to at random. It is frequently called selective or judgmental sampling. When a researcher chooses a sample with a particular goal or target in mind, it is known as purposeful sampling (Hennink et al., 2020). Because of this, the sample is selected based on the characteristics or traits that the researcher wants to look into. In order to focus on certain topics of interest and get in-depth information on those problems; purposeful sampling is often used in qualitative research. According to Geladze (2015), it is also commonly used in small-scale studies with limited sample numbers. Purposive sampling, sometimes referred to as judgmental sampling, is the process of choosing participants based on particular traits or attributes that support the goals of the study. When conducting qualitative research and trying to gain a deep knowledge, this approach might be helpful (Palinkas et al., 2015).

Purposive sampling's effectiveness in locating participants who are most likely to contribute pertinent information is one of its main benefits. For example, in studies examining teachers' perspectives on ICT in the classroom, researchers may specifically include teachers with a great deal of experience integrating technology into the classroom. This focused method is perfect for qualitative investigations as it enables researchers to collect rich, comprehensive data that can shed light on complicated problems (Etikan et al., 2016). Purposive sampling can take many different forms, such as maximum variation sampling, which aims to capture a broad range of opinions within a single population, or homogenous sampling, where participants have similar traits. Researchers can customise their sample techniques to meet the unique requirements of their study by utilising a variety of tactics. Because it prioritises quality over number when choosing participants, this flexibility enables a deeper investigation of the study topics (Palinkas et al., 2015).

It is important to acknowledge some constraints associated with purposive sampling. Due to the researcher's discretion in participant selection, the non-random character of this technique may unintentionally influence the results. As a result, it is critical that researchers specify their selection criteria precisely and take into account how these decisions may affect the generalisability of their findings. Purposive sampling is nonetheless a useful method in qualitative research because it helps researchers gain targeted insights and a better comprehension of intricate social processes in spite of these difficulties.

The current study used purposive sampling. The schools are five public high schools located in Gauteng, Soshanguve. These are schools that use ICTs in order to teach and learn Business Studies. The participants that were chosen were two teachers who teach Business Studies from each school making it a total of ten participants. The teachers were also purposively chosen as a result of their age and experience. The sample sizes were based on Grades 10-12 Business Studies teachers that teach and their willingness to participate in this research. The teachers were required to give feedback on how they use ICTs in the classroom and their attitudes towards the use of ICTs.

3.5.2 Convenience sampling

Convenience sampling is a qualitative research sample strategy in which participants are selected according to the ease and convenience of the researcher's communication with them (Hennink et al., 2020). It is a non-random sampling technique that is frequently used in studies. Using this sample approach, individuals that are easy for the researcher to get in touch with are chosen (Stratton, 2021). Convenience sampling is frequently employed in qualitative research.

Convenience sampling is popular and appealing to researchers for a number of reasons: Research may be conducted by anybody, and data collecting is simpler, to gather data for convenience sampling you do not need to be highly skilled or experienced (Brewis, 2014). A smaller sample will also save time when sorting through a large amount of raw data (Brewis, 2014). This sample strategy can be more cost-effective than funding large-scale research initiatives since it allows you to perform your study quickly (Auer et al., 2016). The sample was composed of readily approachable, eager individuals who were present, making the procedure speedier and more comfortable for the researcher conducting the study. It is simpler to generate additional samples in future research if more participants are required, either to try to duplicate results or to supply more information over time (Auer et al., 2016; Brewis, 2014).

There are certain disadvantages, just like with any sample technique. The researcher was not able to include a diverse group of people since the sample is dependent on those who are willing to participate at the time and location where the researcher was present (Jager et al., 2017). Furthermore, the research employed a subjective selection process to determine participants, which may have an influence on the final sample (Jager et al., 2017). It is possible for many academics to point out that using a convenience sample might lead to the results not including certain demographic groupings (Andrede, 2021; Jager et al., 2017; Leiner, 2017). Additionally, because participation is voluntary, the statistics may show a higher representation of those who are pro-topic or motivated to learn more about the issue (Mujere, 2016; Rice et al., 2017). The study's findings may not be taken seriously by the larger research community if you conduct studies relying just on convenience sampling without also using other probability-based sampling techniques or reproducing results (Mujere, 2016; Rice et al., 2017). It could be more challenging to segment the findings into demographic information. This is because, depending on where you sampled from (an elderly home, for instance, will have a higher proportion of older participants), you may have collected data on the same kind of individual. In some population groupings, this might result in either an overrepresentation or an underrepresentation (Mujere, 2016; Rice et al., 2017).

Convenience sampling comprises choosing participants based on who makes it simplest for the researcher to get information, rather than selecting individuals at random from a predetermined group (Stratton, 2021). Due to its speed, ease of use and low cost, this sample technique is the most often utilised. Most of the time, members are cordial and eager to take part in the study (Stratton, 2021). Because the schools are near to the researcher's residence, convenience sampling is a viable approach for this study as it facilitated participant contact.

3.6 Data collection and documentation

Semi-structured interviews are the most typical form of interviews (Doody & Noonan, 2013). This form of data collecting is critical in addressing the study's research goals. It is characterised as the researcher asking open-ended questions that lead to intriguing queries in order to elicit extra information from the participants (Bernstein & Lysniak, 2018). One goal of this strategy is to have set questions that will further clarify the research phenomena (Doody & Noonan, 2013). Semi-structured interviews, according to Doody and Noonan (2013), offer the advantage of allowing the researcher to ask more complicated questions, allowing participants to provide extensive replies and their own interpretation of these occurrences. Participants can express their own ideas and opinions in their own terms by answering open-ended questions (Bernstein & Lysniak, 2018). This gave the researcher a chance to investigate other problems that came up in the interviews (Doody & Noonan, 2013). It was crucial to base these questions on the participants' behaviour, knowledge, experience and demographic information (Doody & Noonan, 2013). Additionally, these inquiries needed to be phrased deliberately in order to evolve into a discussion that would center on the study issue (Doody & Noonan, 2013). I also made use of field notes. In qualitative research, field notes are frequently used to assess the quality of the study questions. Field notes are notes the researcher takes while conducting interviews; they refer to the participants' gestures and facial expressions; this was to confirm what they were saying (Phillippi & Lauderdale, 2018).

To triangulate my data, I also included observations of teachers. This means that I attended the classes of the Business Studies teachers so that I could see how they use ICTs during their lessons. As the study only included ten participants, I only observed one teacher from each school. These teachers were chosen after the semi-structured interviews, so that I could observe if their actions in class matched what they said during the interviews. These observations looked at which specific tools they used, did they use tools for the duration of the period or only when they had to show their learners examples, and if teachers were able to set up these tools or did they need to ask for help from their learners.

3.7 Data analysis

Data analysis in qualitative research is tough since there is usually a lot of data to evaluate and multiple units of analysis (Paulus & Lester, 2016). Rather than waiting until all the data is obtained, qualitative researchers typically finish the initial steps of data analysis as they collect it (Paulus & Lester, 2016). This facilitates data analysis and allows them to determine when data saturation has occurred (Paulus & Lester, 2016). The data that will be gathered during the interviews will be evaluated and analysed in the light of the research questions.

This data provided insight into understanding the study questions and may help to address them. The research questions served as the basis for the interpretation and analysis of the interview data. The information offered helped to clarify the research questions and could possibly be able to provide answers. It was essential to refer back to the research field notes throughout the data analysis phase to confirm specific findings and to get new information from the participants (Maree, 2016). Hermeneutics is the name of the data analysis approach that was used to analyse the data. The process of understanding certain texts is known as hermeneutics (Schmidt, 2016). According to Maree (2016), it offers a philosophical perspective on comprehending human behaviour that is consistent with the interpretivist research philosophy.

In the current study, I used the Atlas.ti tool, which is a qualitative research tool for coding and developing themes, as well as constructing literature reviews, network diagrams and data visualisation (Ormston et al., 2014). The goal of qualitative analysis is to find themes and patterns that emerge from the data. Atlas.ti, was employed to examine the gathered information. This kind of software assisted with data coding and extracted specifics that aided in data interpretation. The significance of particular information and its potential to facilitate comprehension of the study was illustrated by this data. Additionally, the program assisted in determining if the data had similarities or discrepancies. By keeping a contemplative notebook throughout the phases of data gathering and analysis, I was able to avoid adding my own opinions to the study.

Thematic analysis is a rigorous technique that enables researchers to uncover, evaluate and report patterns in interview data, resulting in a thorough and nuanced knowledge of the data's content (Clarke, 2017). This technique needs a rigorous and extensive interaction with the textual data acquired from interviews, which is arranged through a number of structured procedures (Clarke, 2017). The first and most important stage in doing thematic analysis on interview data is to get completely familiar with the material. This entails delving thoroughly into the substance of your interviews to ensure a proper comprehension of the data you will be reviewing (Terry et al., 2017). I read and reread the transcripts carefully. While reading, I took thorough notes on my first thoughts, noting any noteworthy or repeating themes that stood out. After transcribing all the interviews, I identified all segments of the transcript that were transcribed verbatim. I checked each transcript for accuracy by listening to and comparing audio recordings with the transcriptions. When in doubt I contacted the participants telephonically and asked them to clarify what they meant. This was done in order to enhance the confirmability of the findings by ensuring that interpretations are grounded in the data (Hancock et al., 2021).

The specific procedures undertaken to analyse the data using Creswell's (2009) generic qualitative data analysis method in Atlas.ti. Using the software made the coding process quicker and data management easier than performing the tasks manually (Creswell, 2009).

The dataset consisted of ten separate interview scripts from the five schools that participated in the study. Teachers were named Participants 1-10 and schools were named School A, B, C, D and E. For demographic information of the participants refer to Chapter 4, Table 1. After preparing and sorting the datasets I created a new project in Atlas.ti and added all the documents into the software all at once. In this way I could easily compare and confirm information from documents across the datasets whenever I needed to. The Atlas.ti report in Figure 3.1 shows that four documents were added (the ten transcripts of the interviews with teachers).

Search Documents

ID	Name	Media Type	Location	Groups	Quotations
D 1	Interview questions- respondant 4	Text	Library		13
D 2	Interview questions- respondent 1	Text	Library		14
D 3	Interview questions- respondent 2	Text	Library		12
D 4	Transcribed data- Respondent 3	Text	Library		20
D 5	Particiant 5	Text	Library		14
D 6	Participant 6	Text	Library		13
D 7	Participant 8	Text	Library		15
D 8	Participant 9	Text	Library		21
D 9	Participant 10	Text	Library		19
D 10	Respondent 7	Text	Library		14

Figure 3.1: ATLAS.ti documents report

As shown in Figure 3.1, the study included interview transcripts from ten teachers from five schools. I began by reading the transcripts one by one to gain a rough sense of what is contained in each document (Tesch, 1990). Throughout this, my focus was to search for what is in the data (Kalpokaite & Radivojevic, 2019, p. 51) instead of asking why and searching for interpretative meanings. Denzin and Lincoln (2005) define the end point of coding as theoretical saturation, which occurs when no new knowledge is created. Saturation was reached in this analysis after a total of 22 initial codes had been developed from the ten transcripts. Figure 3.2 displays an Excel report from Atlas.ti reflecting the initial codes. This figure also shows the codes groundedness and density.

A	B	C	D	
Code		Grounded	Density	Code Groups
●	Attitudes towards ICTs in Business studies	153	1	Code groups
	○ Advocate for ICT integration	106	0	Code groups
	○ Limited options	153	0	Code groups
	○ Neutral attitudes	97	1	Code groups
●	Ease and usefulness of ICTs	119	1	Code groups
	○ Easy to use	101	1	Code groups
	○ Enhancing teaching and learning	105	0	Code groups
	○ Perceived ease of use	110	0	Code groups
●	External factors in ICT integration	117	0	Code groups
	○ Benefits	112	0	Code groups
	○ Challenges	109	0	Code groups
	○ Influence on attitude	103	0	Code groups
	○ Limited availability	105	0	Code groups
●	ICT integration in teaching	129	0	Code groups
	○ Access to vast resources	115	0	Code groups
	○ Collaborative projects	106	0	Code groups
	○ Specific ICTs	114	0	Code groups
●	Influence of attitudes on ICT use	131	0	Code groups
	○ Fostering teamwork	105	0	Code groups
	○ Impact on student engagement and learning	131	0	Code groups
	○ Preparing for future careers	105	0	Code groups
	○ Relationship between attitudes and technol	107	0	Code groups

Figure 3.2: Excel report of the 22 initial codes that were generated by Atlas.ti

In the current study, I used the ATLAS.ti tool, which is a qualitative research tool for coding and developing themes, as well as constructing literature reviews, network diagrams and data visualisation (Ormston et al., 2014). The goal of qualitative analysis is to find themes and patterns that emerge from the data. Atlas.ti, was employed to examine the gathered information. This kind of software assisted with data coding and extracted specifics that aided in data interpretation. The significance of particular information and its potential to facilitate comprehension of the study were illustrated by this data. Additionally, the program assisted in determining if the data had similarities or discrepancies. By keeping a contemplative notebook throughout the phases of data gathering and analysis, I was able to avoid adding my own opinions to the study.

Semi-structured interviews provided a better knowledge of how teachers adapt to and use ICT devices in the classroom. This method of conducting interviews allowed me to analyse the participants' perspectives and opinions on the research questions. To conduct interviews, questions must be thoroughly prepared in advance. Open-ended questions enabled participants to express their views and opinions in their own terms (Bernestein & Lysniak, 2017). It enabled the researcher to investigate numerous concerns raised during interviews (Doody & Noonan, 2013). These questions should be based on the participants' conduct, knowledge, experience and demographic information (Doody & Noonan, 2013). The

participants' comments were recorded digitally and in writing. Permission was obtained previously to digitally record the participants' responses. The advantage of recording the participants' comments was that it allowed me, the researcher, to precisely copy their responses. Notes were also taken during the interviews to document the participants' comments, as well as my own reflecting notes.

During the classroom observations (See Appendix 4), I stayed and observed the teachers while they were teaching. The tools were already set up; the teacher only plugged in a USB (Universal Serial Bus) on the smart board. Some teachers, such as Participants 5 and 7, used the smart board with ease and integrated it seamlessly into their lessons. However, others, including Participants 6, 8, and 9, struggled to use the ICT tools effectively and, as a result, ended up not using them at all during the lesson.

The only equipment in the classrooms at school B was screens; there were no data projectors. When asked if they had any projectors, the teachers who did not have any said they had to share the data projectors with other teachers within the school. Participant 10, like Participant 4, expressed that they did not see the need to keep a computer and data projector in the classroom when they were not in use and would only bring them in when necessary. Similarly, as observed with Participant 3, some teachers opted not to use the projector at all, either due to personal preference or logistical constraints. These observations highlighted the varying levels of ICT proficiency among teachers. While some educators embraced the available technology, others either struggled with it or chose not to use it, reflecting the mixed attitudes toward ICT integration in the classroom.

3.8 Methodological norms

3.8.1 Trustworthiness

A study's level of confidence in its data, interpretation and procedures for assuring its quality is referred to as its trustworthiness (Cantelmi et al., 2021). The present study considered four methodological principles to assure its trustworthiness:

3.8.2 Credibility

According to Stahl and King (2020), credibility is a measure of the truth value of qualitative research and determines if the study's results are correct and truthful. It is regarded as the most crucial factor in determining trustworthiness and is the first component or criterion that must be developed (Stahl & King, 2020). In my study I maintained transparency and clarity in the research process, applied suitable data gathering and analysis methodologies, and related the research study conclusions to reality in order to establish trust.

To ensure credibility, I employed semi-structured interviews with experienced educators and used member checking by allowing participants to review their transcripts for accuracy. I also applied triangulation by comparing interview data with existing literature and classroom observations to confirm the consistency of findings. Additionally, I maintained transparency by documenting the entire research process, including coding methods and thematic analysis steps, ensuring that conclusions accurately reflected the data.

3.8.3 Transferability

Transferability refers to the extent to which conclusions and analyses drawn from a study can be meaningful and applicable to other contexts or settings outside of the original research environment (Parker & Northcott, 2016). Transferability is established by demonstrating to readers how the research study's results might be used in a variety of contexts, situations, eras and individuals. Qualitative researchers can improve transferability by clearly outlining the study context and underlying assumptions (Janis, 2022). It is crucial to align the theoretical framework, compile articles, synthesise gaps, define a clear methodology and data plan, and discuss the theoretical and practical consequences of the study in order to achieve transferability (Janis, 2022; Parker & Northcott, 2016). Transferability, as its name suggests, assesses how much or how little the study's findings apply to different situations, locations and environments. Another way to think about it is in terms of generalisability. Thick descriptions, which entails giving sufficient information on the study site, participants and methods or processes used to gather data, were used to show transferability.

3.8.4. Dependability

In qualitative research, dependability is crucial to credibility since it establishes the study's conclusions as reliable and consistent (Janis, 2022). Dependability, which is related to reliability, is the degree to which a research study may be carried out again by a different researcher and get the same results (Netes et al., 2014). To guarantee reliability in my qualitative study, which included interviews, I used a systematic strategy for data collecting and analysis. I meticulously recorded the research procedure, including interview techniques and any adjustments made throughout the study. I included different researchers in the data coding process to improve dependability through cross-checking. I kept accurate records of decision-making processes and participant interactions. In addition, I performed member checks, allowing participants to examine the findings for correctness and consistency with their own experiences. In this study dependability was implemented. Denzin and Lincoln (2005) define the end point of coding as theoretical saturation, which occurs when no new knowledge is created. Saturation was reached in this analysis after a total of 22 initial codes had been developed from the four transcripts.

3.8.5. Confirmability

In qualitative research, confirmability refers to the degree of confidence that the findings are based on the participants' stories and words rather than any bias on the part of the researcher (Skinner et al., 2020). It guarantees that participant perspectives and experiences - rather than the researcher's biased interpretations or personal prejudices - were the basis for the data collected and analysed (Skinner et al., 2020). Establishing and sustaining rigour in the research process, which includes a methodical and transparent approach to data collection, analysis and interpretation, leads to confirmability (Ormston et al., 2014). To improve confirmability, I used procedures such as triangulation, member verification and maintaining an audit trail (Kivunja & Kuyini, 2017). Triangulation is the use of two or more data sources in qualitative research to gain a thorough knowledge of the phenomena. Triangulation is also regarded as a qualitative research approach to assess validity through the convergence of information from multiple sources (Carter et al. 2014). When it comes to confirmability, I demonstrated that my study is impartial and unaffected by the researchers' presumptions or prejudices. Rather, reliable research ought to yield conclusions that accurately represent data gathered from subjects. To prove confirmability, I provided an audit trail that explained every stage of the data analysis and demonstrates that my conclusions are unbiased and fairly represent the replies of the participants.

3.9 Ethical considerations

3.9.1 Consent letters

Participants were given consent letters, and they were free to opt out of the study at any time without any consequences and all gathered data will then be destroyed. The study was explained in the consent letters (see Appendix 3 and 4).

3.9.2 Confidentiality and anonymity

In studies involving human subjects, anonymity and confidentiality are two crucial ethical issues. The researcher is aware of the participants' identities but took precautions to prevent that information from being made public (Zimmer, 2020). I did not collect any details that may be used to identify participants, like names, phone numbers, email addresses, physical traits, pictures, or videos (Zimmer, 2020). All information was gathered in an anonymous manner and held in strict confidence. I took every precaution to guarantee anonymity by making it impossible for anybody involved in the project to link specific individuals to their replies. Pseudonyms (a name that a person uses instead of their real name) were used to safeguard participant’s identities, guarantee participant confidentiality, and promote amity in the information collection process (Zimmer, 2020).

3.10 Conclusion

Finding out how Business Studies teachers feel about using ICTs in the classroom is essential to understanding how to successfully incorporate technology into instruction. Establishing a learner-centered teaching environment that promotes engagement and improves learning outcomes may be made easier with an understanding of these attitudes. I explored the methodological decisions used in this study in Chapter 3, emphasising how they supported the goals of the research and further our knowledge of the challenges associated with ICT integration in the classroom. I chose to conduct my study using a qualitative approach, which was most suited for examining participants' varying subjective viewpoints and experiences. This method enabled a more detailed assessment of the attitudes of instructors and the variables affecting their use of ICTs. The goal of qualitative research is to identify themes and patterns that may guide practice and policy, not just to solve specific problems. Through an emphasis on the firsthand experiences of teachers, this approach enabled a thorough investigation of how ICTs are seen and used in the classroom setting.

In order to enhance the inquiry even more, I used an exploratory case study style. The how, why, what and who issues are well addressed by this design, which also offers a framework for analysing the complex dynamics of ICT use in Business Studies classes. An exploratory case study gave me the flexibility to gather and analyse data in whatever way I saw fit, allowing me to adjust as new results and trends emerge. This flexibility was essential in an area where new knowledge could have a big influence on teaching methods, like educational technology, which is a topic that is changing quickly. I used convenience and selective sampling strategies to choose participants. Finding educators with specialised knowledge and expertise in using ICT in the classroom required the use of purposeful sampling. My goal in choosing participants for this study was to collect rich data that would shed light on the difficulties and achievements related to ICT integration. In order to make it easier for participants to participate and guarantee that the study could be completed efficiently in the time and resources allotted, convenience sampling was also used.

Field notes, observations, and semi-structured interviews were the three main techniques used to gather data. Participants were given the chance to explore ICT usage in their classrooms in-depth and to voice their opinions through semi-structured interviews. They were able to contribute thoughts and expound on their experiences in a conversational manner that would not have been possible with organised questions. In addition to the interviews, field notes and observations provided background regarding the classroom setting and the real application of ICT tools. I used Atlas.ti, a qualitative data analysis program that makes theme analysis and coding easier, to examine the data. With the use of this tool, I could methodically arrange and analyse qualitative data, assisting in the discovery of patterns and trends in the

replies. I was able to fully comprehend the attitudes and practices of Business Studies instructors towards ICT integration by categorising the data and extracting important themes from the field notes, observations and interviews.

The methodological decisions discussed in this chapter provided a framework for the examination and discussion of the results that follow. Through the use of an exploratory case study design, a qualitative methodology and reliable data collection techniques, this study aimed to shed light on how Business Studies instructors see and use ICTs in the classroom. The knowledge gathered from this research helped to develop more efficient, learner-centered instructional settings that use technology to improve instruction and learning results.

Chapter 4: Data analysis and findings

4.1 Introduction

This chapter's focus is on evaluating the information gathered for the study, outlining the main conclusions, and relating these revelations to previously published works. Using thematic analysis, I will pinpoint a number of major themes that surfaced from the field notes, observations and semi-structured interviews. This analytical method made it possible to thoroughly examine teachers' opinions about the application of ICTs in Business Studies classes, exposing both the advantages and disadvantages of using technology in instruction. The results show that a variety of factors, such as teachers' prior technological experiences, their perceptions of the value of ICTs in improving learning, and the support systems in place at their schools, influence their attitudes towards technology. Educators were enthusiastic about using ICTs in the classroom, pointing out that access to materials and increased learner participation were two big advantages. Nevertheless, they also identified impediments to successful implementation, including insufficient training, scarce resources and infrastructure-related difficulties. These results are consistent with the body of research that highlights the role both systemic and personal attitudes have in determining how well technology is incorporated into the classroom. This chapter highlights the importance of comprehending the intricate interactions between teachers' attitudes and the contextual elements that affect ICT use in the classroom by connecting the findings to the literature. The knowledge acquired from this study adds to the larger conversation on educational technology by emphasising the necessity of institutional support and focused professional development for better ICT integration. In the end, this analysis sheds light on how ICT is being used by Business Studies instructors and lays the groundwork for future studies and applications in the development of learner-centered learning environments.

Section A: Data analysis

This study included reviewing the transcribed interviews. During the study, emerging themes were identified by coding the data. They were acquired through interviews conducted in Soshanguve. A total of four teachers were questioned. The following research questions served as a guide for the interview.

Primary research question:

What are teachers' attitudes towards the use of ICTs in teaching Business Studies?

Secondary research questions:

- What are the external factors (challenges and benefits) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?
- How easy to use or useful do Business Studies teachers find the ICTs?
- How do Business Studies teachers' attitudes influence teaching and learning with ICTs in their subject?

4.2 Data collection process

Data was firstly gathered through semi-structured interviews. The participants' schools served as the setting for these in-person interviews. I made appointments with every school administration to obtain authorisation to interview teachers. Once permission was secured, I sent the participants questions before the interviews. This was done so that participants will have a choice to continue with the interview or not, thereafter the meetings were scheduled with each participant to participate in the interview. Each interview began with an introduction in which I detailed and discussed the goal of my study. I then gave them consent papers to sign and requested permission to audio record the interviews. Each participant was asked 25 questions, (see Appendix 1), and was allowed to express their own ideas and opinions. If participants did not understand the questions, they were encouraged to speak out, and I restated the question in a clear manner.

4.3 Background and information of selected schools and participants

To better understand the chosen participants' setting, a quick overview of the histories of the chosen schools is provided. Each participant in the interviews was asked to give a brief background of themselves in order to get this information. The backgrounds of the participants are listed in Table 4.1, and then the schools and participants will be briefly explained.

Table 4.1. Participants' background information

P	School	Age	Gender	Qualification	Subjects Taught	Experience	Training
P 1	A	26	M	Master of Education	Tourism & Business Study	3 years, 6 months	None
P 2	A	56	F	Diploma in Teaching	Business Study, Economics & Accounting	30 years	None
P3	B	45	F	Bachelor of Education	Business Study & English	16 years	School workshop
P 4	B	28	F	Bachelor of Education	Business study and Accounting	4 years	MST workshops
P5	C	29	M	PGCE	Business Studies	3 years	School training
P6	C	61	F	Higher certificate in Education	Business Studies & Economics	30 years	School training
P7	D	42	M	Bachelor of Education	Business Studies & IsiZulu	15 years	MST workshop
P8	D	56	M	Diploma in Teaching	Business Studies and Consumer Studies	28 years	MST workshop
P9	E	31	F	Honours in Education	Business Studies & English	7 years	University Level

P10	E	49	F	Bachelor of Education	Business Studies	20 years	None

School A is a public secondary school in Soshanguve that was established in 2013. It has both concrete built and mobile classrooms and serves learners from Grades 8 to 12. ICTs were introduced three years ago, beginning with laptops for teachers, followed by free internet access and interactive whiteboards. Two teachers were selected for this study, one in his late 20s with three years of teaching experience and another in her late 50s with 30 years of experience. The school does not provide structured ICT training, and the study will explore how different generations of teachers adapt to technology and whether they find training beneficial for ICT integration.

School B is another public secondary school in Soshanguve, established in 2008. It accommodates learners from Grades 8 to 12 and introduced ICTs four years ago. The school provides smartboards in Business Studies classrooms, but ICT training is limited. Two teachers with varying levels of experience, one in her late 20s with four years of teaching and another in her mid-40s with 16 years of experience were selected. The study will investigate how their different levels of teaching experience influence their adoption of ICT tools and whether they find self-directed learning effective in improving their technology skills.

School C is a well-established public secondary school in Soshanguve that has been in operation since 1995. It serves Grades 8 to 12 and implemented ICTs five years ago, equipping classrooms with projectors and smartboards. Two Business Studies teachers were chosen for this study, one in his late 20s with three years of teaching experience and another in her early 60s with over 30 years of experience. While the school offers occasional ICT training workshops, participation is voluntary. This study aims to determine whether structured training influences ICT adoption and how teachers with different career lengths perceive and use technology in their teaching.

School D is a public school in Soshanguve that was founded in 2000 and caters to learners from Grades 8 to 12. ICTs were introduced six years ago, with all Business Studies classrooms equipped with laptops and projectors. Two teachers were selected, one in his early 40s with 15 years of experience and another in his late 50s with more than 28 years of experience. The school organises periodic ICT training sessions, but attendance is not mandatory. The study will examine how teaching experience affects ICT adoption and whether teachers believe that voluntary training is sufficient for effective technology integration.

School E is a public secondary school in Soshanguve that has been operating since 2010. It accommodates Grades 8 to 12 and integrated ICTs into teaching and learning five years ago. Business Studies teachers are provided with laptops and access to digital learning resources. Two teachers were chosen for this study, one in her early 30s with seven years of experience and another in her late 40s with over 20 years of teaching experience. While the school offers structured ICT training, it is conducted only once a year. The study will explore whether infrequent training influences teachers' confidence and willingness to incorporate ICT tools into their lessons.

4.4 Themes emerging from the data

This section presents themes that emerged during the data analysis process. These themes developed as a result of the codes that were allocated throughout the data processing process. Using the codes, I was able to categorise the data according to recurring themes that emerged throughout the course of the inquiry. In Table 4.2 is a summary of the themes that show how the research subjects, themes and sub-themes relate to one another as well as the theoretical framework used in this study.

Table 4.2: Summary of research questions and developed themes

Research Questions	Themes	Theoretical framework	Data source
What are teachers' attitudes towards the use of ICTs in teaching Business Studies?	Attitudes towards ICTs in Business Studies	Attitudes towards using	Semi-structured Interview
What are the external factors (challenges and benefits) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?	External factors in ICT intergration	External variables Attitudes towards using	Semi-structured Interview
How easy to use or useful do Business Studies teachers find the ICTs?	Ease of use and usefulness of ICTs	Perceived ease of use and usefulness	Semi-structured Interview
How do Business Studies teachers'	Influence of attitudes on ICT use	Behavioural Intention	Semi- structured Interviews

attitudes influence teaching and learning with ICTs in their subject?			
How do teachers incorporate ICTs in the teaching of Business studies?	ICT integration in teaching	Actual use	Semi-structured Interview

Main research question: *What are teachers' attitudes towards the use of ICTs in teaching Business Studies?*

4.4.1 Theme 1: Attitudes towards ICTs in Business Studies (overarching theme)

A theme that emerged from this study is the teachers' attitudes towards ICTs in Business Studies. This theme discusses how teachers feel about ICT.

Participant 2 highlighted that she believes in the effectiveness of traditional teaching methods over ICTs because direct engagement and discussion in the classroom are crucial for understanding and promoting critical thinking.

> *As someone with over a decade of experience teaching Business Studies, I believe in the effectiveness of traditional teaching methods over ICTs. While ICTs can provide access to information and simulations, I find that direct engagement and discussion in the classroom are crucial for deepening understanding and fostering critical thinking skills. While technology has its place, I prioritise face-to-face interaction and hands-on learning experiences to best prepare learners for real-world business challenges.*

While some participants were more cautious in their approach, they acknowledged the value of ICTs in enriching the educational experience in Business Studies. Participant 3 finds it relatively valuable to integrate technology into his Business Studies lessons, citing a positive attitude towards ICTs.

> *Mmmmhhh well, as someone who prefers traditional methods, I use ICT tools mainly for personal development rather than directly enhancing my teaching. I occasionally read online articles or watch webinars to stay informed about new trends in Business Studies. However, I still rely on classic textbooks and face-to-face methods for actual classroom instruction. For me, ICT is more about keeping up with developments than changing my teaching approach.*

A complex perspective is shown by the examination of teachers' perspectives towards the usage of ICTs in Business Studies instruction. Some participants, especially those with previous teaching experience, continue to show a noticeable preference for conventional teaching techniques despite the acknowledged potential benefits of ICT technologies, such as increased engagement and access to a broad range of materials.

On the other hand, Participant 9 presented a more progressive perspective, emphasising the benefits of ICT in enhancing learner engagement and enabling dynamic teaching. This participant noted that many teachers are gradually warming up to technology, even though some remain resistant. In their classrooms, they actively incorporate ICT tools such as PowerPoint presentations, educational videos, and interactive quizzes. Additionally, they encourage learners to conduct online research and collaborate on projects via digital platforms.

I believe most teachers are slowly warming up to the idea, but some are still a bit resistant. I think using technology in the classroom helps engage learners more effectively, and it allows for more dynamic teaching.

Participant 9 also detailed the specific ICTs they use, including laptops, projectors, interactive whiteboards, and learning management systems like Google Classroom to share materials and assignments. These tools, according to the participant, help learners visualise complex business concepts and provide an interactive way of learning. This aligns with findings from Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) framework, which underscores how effective integration of technology enhances teaching by making abstract concepts more tangible.

I mainly use laptops, projectors, and interactive whiteboards. I also use learning management systems like Google Classroom to share materials and assignments with my learners

Moreover, Participant 10 described a structured approach to ICT integration by planning lessons around available technology. They create digital presentations, use online assessment tools, and encourage learners to leverage laptops and tablets during lessons to access information. This proactive approach contrasts with the more cautious stance of other participants, showcasing the diversity of attitudes towards ICT adoption.

I plan my lessons around the technology available. I start by creating digital presentations and resources, and I use online tools for assessments and collaboration. I also try to encourage learners to use their laptops and tablets during lessons to access information.

Participant 6, however, expressed a strong resistance to the use of ICT in Business Studies, arguing that technology does not add much value to the subject. This participant preferred traditional methods such as textbooks, chalkboard writing, and face-to-face discussions. Unlike Participant 9, who sees ICT as a way to enhance engagement, Participant 6 believes Business Studies concepts can be effectively taught without digital tools. While acknowledging that some colleagues use projectors or online case studies, they personally avoid ICTs, as

they find conventional approaches more effective. This perspective aligns with research indicating that some teachers resist ICT due to perceived ineffectiveness or lack of necessity (Shah, 2022).

I don't use any ICTs in my classroom. I still believe in using textbooks, writing on the chalkboard, and having face-to-face discussions with my learners.

Overall, the analysis reveals a complex spectrum of attitudes among Business Studies teachers regarding ICT integration. While some, particularly experienced teachers, remain hesitant and prefer traditional methods, others recognise the potential of ICTs in enriching learning experiences. These findings support the broader literature, which suggests that teachers' acceptance of ICT often depends on factors such as teaching experience, access to resources, and professional development opportunities (Ghavifekr et al., 2015). Understanding these varied perspectives is essential in shaping policies and training programs that support teachers in effectively integrating ICT into their Business Studies classrooms.

Sub-research question 1: What are the external factors (challenges and benefits) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?

4.4.2 Theme 2: External factors in ICT integration

In the current study, external factors in ICT integration refer to elements outside and inside the classroom that influence how effectively technology is adopted and utilised in the classroom.

4.4.2.1 Sub-theme- Challenges

Challenges with the adoption of ICT include technical issues, preparation time, concerns about learner distractions and unequal access to technology. Participant 1 particularly mentioned load shedding as one of the challenges they encounter regarding the use of ICTs in the Business Studies classroom. The participant further mentioned that this is because once the power goes off, they cannot use the smartboard to present the lessons.

It's mostly load shedding.

Participant 2 mentioned on the other hand that the main challenge they encounter evolves around maintaining learner focus and engagement. Engaged learners are more likely to grasp and remember content, ask questions and actively engage in discussions, which is critical in subjects such as Business Studies, where analytical abilities are required. Furthermore, a

concentrated classroom setting promotes teamwork, allowing learners to work productively and exchange ideas. Participant 3 argued that the challenges they come across are software glitches or hardware malfunctions.

One of the main challenges I encounter with ICTs in the Business Studies classroom is the technical issues that can arise, like software glitches or hardware malfunctions.

Participant 3 identified another major problem when using ICTs in the Business Studies classroom, namely the extra time and effort necessary to integrate technology into courses. These problems make the participant apprehensive to rely entirely on ICTs for teaching.

Additionally, I find that integrating technology into my lessons requires more preparation and time than I'm accustomed to experience. Overall, these challenges make me hesitant to rely on ICTs for teaching.

Participant 4 expresses considerable excitement for adopting ICTs in the Business Studies classroom but notes some important limitations that may limit its efficacy. A critical concern is the availability and dependability of technological infrastructure, which includes having enough computers, consistent internet connectivity and trustworthy technical assistance. These issues can disrupt lesson delivery, making it difficult to provide a seamless and engaging learning environment for learners. When these infrastructural issues develop, they can also impede learner engagement and participation, lowering the overall efficacy of employing ICTs in the classroom.

Despite my enthusiasm for using ICTs in the Business Studies classroom, several challenges can arise. One common issue is the availability and reliability of technology infrastructure, including access to computers, internet connectivity and technical support, which can impact lesson delivery and learner engagement.

Participant 4 also acknowledges the difficulty of keeping up with rapid technology improvements. Integrating new ICT trends into the curriculum necessitates ongoing professional development and training, which may be time-consuming and difficult for teachers. Keeping up with evolving technologies is critical for efficiently employing ICTs in the classroom, but it adds to the burden and necessitates a commitment to continuous study and adaptation.

Furthermore, keeping up with rapid technological advancements and incorporating new ICT trends into the curriculum requires ongoing professional development and training.

Another challenge is ensuring equitable access to ICT resources for all learners, particularly those from disadvantaged backgrounds who may not have access to technology outside of school.

Participant 8 highlighted a major challenge related to the pressure to use ICTs even when they do not see the need. He also pointed out the issue of unreliable technology, such as slow internet or malfunctioning laptops, which disrupt lessons.

The main challenge is that I feel pressured to use technology when I don't see the need. There's also the issue of unreliable technology, such as when the internet is slow or a laptop doesn't work properly during a lesson.

Participant 8 further explained that these challenges make them more hesitant to incorporate ICTs into their teaching. They prefer relying on traditional methods they know will work consistently, reinforcing the idea that perceived reliability plays a crucial role in teachers' willingness to embrace ICT.

They make me more hesitant to incorporate ICTs into my lessons. I prefer to rely on teaching methods I've used for years that I know are effective.

Participant 10 also pointed out technical issues as a significant barrier to ICT use in Business Studies instruction. They noted that problems such as internet failures and projector malfunctions disrupt lessons and waste valuable class time. Additionally, they highlighted that some learners struggle with using technology effectively, which can slow down the lesson and create frustration. These factors contribute to the participant's reluctance to rely on ICT entirely, as they worry about its potential negative impact on the learning experience.

They create disruptions and take away from the lesson's flow. Technical issues can waste valuable class time, and not all learners are as comfortable using technology, which can lead to frustration.

Age appears to be a significant factor influencing attitudes towards ICT integration. Participant 6, who is 61 years old with 30 years of teaching experience, described herself as a **novice** in using technology and expressed a strong preference for traditional teaching methods. This participant's discomfort with technology likely contributes to her resistance to ICT adoption. In contrast, younger teachers, such as Participant 9, who actively incorporate ICT, tend to be more adaptable and willing to experiment with digital resources.

I would describe myself as a novice. I can manage basic tasks, but I don't feel very comfortable with computers or technology.

4.4.2.2 Subtheme- Benefits of ICTs

The participants' comfort levels with ICTs varies, preferring some tools over others. Despite the challenges, they acknowledge the benefits of using technology for access to information and administrative tasks.

Participant 4: *Despite these challenges, proactive planning, collaboration with IT support staff, and leveraging learners' digital skills can help mitigate these obstacles and enhance the overall learning experience in Business Studies.*

Participant 3 mentioned that as much as she prefers the old methods of teaching ICTs, that they use ICTs to access up-to-date materials that are not available in the textbooks. The participant further stated that she uses the tools to show the learners videos.

As someone that has been in the game for quite some time and as a teacher who prefers traditional methods, there are a few existing factors that support my use of ICTs in Business Studies. Firstly, I use ICTs for accessing up-to-date information and research materials that are not available in textbooks. Secondly, I occasionally utilise educational videos or online resources for supplementary content.

Just like Participant 3, Participant 1 also argued that using ICT tools in class makes lesson preparation easy as they are able to search for information and strategies to present lessons that will interest the learners.

It makes things easy in lesson preparations. I can search for more information and strategies to present my lessons and make my learners be interested in the lesson by making them watch videos online.

Participant 3 further argued that ICTs provide a lot of advantages as they offer additional resources which allow the participant to find the latest information and trends that enrich their lessons.

I consider these factors as advantages because they offer additional resources that traditional methods might not provide. For instance, ICTs allow me to find the latest business news and trends, which can enrich my lessons. Educational videos can also illustrate concepts in ways that textbooks alone might not.

Despite these challenges, other participants, such as Participant 9, see advantages in ICT integration, particularly in increasing learner engagement and making abstract concepts more tangible. The access to diverse learning resources and opportunities for collaboration through online platforms were noted as benefits.

I think ICTs are essential in making Business Studies more engaging and relevant. The ability to access real-time data, use simulations, and collaborate online prepares learners for the digital business world they will encounter in their careers.

Participant 7, at 42 years old, presents a more balanced perspective. Unlike Participant 6, who avoids ICT altogether, Participant 7 is competent in ICT use but chooses not to incorporate it extensively. This suggests that middle-aged teachers may not face the same struggles as older educators but may still have reservations about widespread ICT use in the classroom. Their stance highlights a nuanced perspective where ICT competence does not necessarily translate into frequent use.

Sub-research question 2: How easy to use or useful do Business Studies teachers find the ICTs?

4.4.3 Theme 3: Ease of use and usefulness of ICTs

The data depicts mixed reactions from the participants. When Participant 2 was asked about whether or not she feels comfortable using ICTs in her classroom, she said that she feels uncomfortable. When asked about the ease of use of ICTs in teaching Business Studies, Participant 2 clearly stated that she is not comfortable using ICTs in class and she further outlined that it is very challenging for her to use ICTs in the classroom.

Participant 3 highlighted that she does not find it easy to use ICTs because she is less familiar with technology which makes them seem complicated. She further stated that she believes traditional teaching methods are more effective, and she is less motivated to invest time in mastering ICT tools.

I don't find it particularly easy to use ICTs in Business Studies. My preference for traditional teaching methods means I'm less familiar with new technologies which can make them seem more complicated to me. My attitude definitely influences my perceived ease of use because I believe the traditional methods are more effective. I'm less motivated to invest time in mastering ICT tools as a result I often find these technologies more cumbersome than helpful and I stick with methods I'm comfortable and experienced with.

While these two participants found it difficult to use ICTs in the classroom, Participant 1, with less teaching experience and training found it very easy to use.

It's very easy for me as I was trained at the university level.

Participant 4: *I do find it relatively easy to integrate these technologies into my lessons. My positive attitude towards ICTs plays a significant role in this ease of use, as it motivates me to explore and adopt new digital tools and platforms that enhance learner learning.*

Participants 1 and 4 believe that integrating ICTs in education enhances teaching and learning experiences, catering to different learning styles, fostering critical thinking, and preparing learners for the digital economy.

Participant 4: *Additionally, the availability of user-friendly software, educational apps, and online resources tailored for Business education simplifies the incorporation of ICTs into my teaching practices. Moreover, continuous professional development and training opportunities further support my proficiency in utilising ICTs effectively to deliver engaging and interactive lessons.*

Participant 8 expressed skepticism regarding ICTs, stating that they do not find them important for Business Studies. They believe traditional methods like chalkboards and textbooks are much more effective. They also admitted that they do not feel comfortable using ICTs and do

not see a need to start integrating them now. This suggests that teachers who already have a negative perception about ICT usefulness may also perceive them as difficult to use, reinforcing the TAM proposed by Davis (1989), which links perceived usefulness and ease of use to actual technology adoption.

I don't find it easy to use ICTs in my lessons. Since I'm skeptical about their value, my attitude definitely makes me less inclined to try and use them.

Furthermore, Participant 8 stated that their skepticism influences their perception of ICT ease of use. Because they do not believe in its value, they are less inclined to attempt using it, making them perceive it as more difficult than it might actually be. This highlights the role of attitude as a mediator in ICT adoption.

Participant 10's views suggest that while ICTs are generally seen as useful, particularly in terms of staying current with educational trends, there are challenges regarding their ease of use. Comfort with basic tools is high, but newer or more complex ICT tools pose difficulties, which are compounded by the teacher's mixed feelings about technology. This mixed attitude likely leads to a perceived lower ease of use for advanced tools. Thus, the response indicates that ICTs are useful to a point but their ease of use is contingent on the teacher's familiarity and comfort level with the technology, as well as their attitude towards it.

I'm comfortable using them for things like presentations or showing videos, but I'm not as confident when it comes to using newer, more advanced tools like simulations or apps. It's a bit of a learning curve for me.

The participants are comfortable with using ICTs and find them easy to integrate into lessons due to their positive attitude and proficiency with user-friendly software. However, they also express challenges and a preference for traditional teaching methods, citing technical issues, preparation time and potential distractions as concerns.

Sub-research question 3: How do Business Studies teachers' attitudes influence teaching and learning with ICTs in their subject?

4.4.4 Theme 4: Influence of attitudes on ICT use in teaching and learning

One of the themes that emerged from the data is the influence of attitudes on ICT use in teaching and learning. The participants have different attitudes towards using ICTs in their teaching. Some find them essential for enhancing teaching and learning experiences, providing access to resources, promoting interactive learning and fostering critical thinking skills.

Participant 2 is concerned that ICTs will undermine the quality of interpersonal relationships and the depth of engagement among learners that conventional, face-to-face teaching techniques may promote. While acknowledging ICTs' potential to improve learning outcomes, the participant favours conventional teaching techniques, thinking they are more successful in developing basic information, increasing deeper comprehension, and cultivating interpersonal skills in learners. This inclination stems from a view that direct human connection and participation are necessary for developing these critical qualities of learning.

As someone who has been teaching Business Studies for over a decade and holds a preference for traditional teaching methods, my attitude towards the use of ICTs in the classroom is somewhat cautious and skeptical. I acknowledge that ICTs have their merits and can enhance learning experiences in certain contexts. However, my concerns stem from various factors that influence how I view their integration into my teaching practice.

My concern with ICTs lies in the potential for these technologies to diminish the quality of interpersonal interactions and reduce the depth of engagement that can be achieved through face-to-face teaching methods. While I recognise the potential of ICTs to support learning outcomes, my preference for traditional teaching methods stems from a belief in their effectiveness in building strong foundational knowledge, promoting deep understanding, and nurturing interpersonal skills among learners.

Participant 2's approach to incorporating ICTs in the Business Studies classroom is cautious and selective. She wants to use technology to complement, rather than replace, conventional educational methods. This method reflects thorough analysis of how ICTs might supplement face-to-face teaching while retaining the advantages of direct engagement, basic knowledge and interpersonal skill development.

As such, my approach to integrating ICTs into the Business Studies classroom is cautious, selective, and guided by the principle of enhancing rather than replacing traditional teaching methodologies. Well, these factors do influence my attitude towards teaching Business Studies, but not in a way that changes my preference for traditional methods.

The participant argued that ICTs provide her with the latest information and additional resources in the classroom.

Participant 2: *I appreciate that ICTs can provide the latest information and additional resources that textbooks may not cover, and I occasionally use these tools for that purpose.*

Participant 3 said she uses ICTs because they help make her lessons interesting and easy to present.

Participant 4: *It's encouraging, I present my lessons with excitement which is a good factor for my learners.*

Challenges like technical issues, distractions and inequitable access can influence their attitudes towards ICTs. Participant 2 mentioned that:

The challenges I encounter with ICTs in the Business Studies classroom primarily revolve around maintaining learner focus and engagement. Digital distractions can sometimes hinder the learning process, and not all learners have equal proficiency or access to technology outside of school. Additionally, integrating ICTs while ensuring they enhance rather than replace traditional teaching methods requires careful planning and adaptation of lesson structures. Balancing these factors remains a constant challenge in effectively utilising ICTs in my teaching practice.

Participant 2 encounters a number of difficulties while using ICTs in the Business Studies classroom. The biggest challenge is keeping learners focused and engaged, as digital distractions may occasionally disrupt the learning process. Furthermore, there is the issue of unequal access to technology outside of school, as not all pupils have the same degree of skill or resources. The participant also emphasises the difficulties of incorporating ICTs in a way that complements rather than replaces conventional teaching techniques, which necessitates careful preparation and class structure modifications. Balancing these elements is an ongoing problem for teachers who want to use ICTs effectively in their classrooms.

Participant 2 also said,

I do see some value in using ICTs for specific tasks like accessing up-to-date information or creating presentations, but these should complement, not replace, traditional teaching techniques. For me, the key to successful teaching lies in the quality of interactions and the clarity of instruction, which can be achieved just as well without heavy reliance on ICT tools.

Nevertheless, incorporating ICTs like smartboards and laptops can enhance lesson preparation, learner interest and engagement, ultimately benefiting the learning experience in Business Studies.

Participant 7’s attitude towards ICTs strongly influences his approach to teaching and learning. Participant’s resistance to technology means they do not see the need for it in the classroom and prefer to rely on traditional methods. This reluctance limits the integration of ICTs into teaching, which could restrict learners' exposure to technology as part of their learning experience. Additionally, the respondent's professional development is also not influenced by ICTs, further reinforcing their skepticism towards these tools. Their attitudes reflect a broader tendency to resist change, particularly in favour of traditional, established practices. This could have implications for learners' readiness to engage with modern technology in the classroom and the potential development of digital skills.

My attitude is that ICTs aren't necessary. The content of Business Studies can be delivered through direct instruction, reading, and writing exercises. I don't see a difference in how I would use one technology over another it all feels unnecessary to me.

Participant 8's skepticism towards ICTs in teaching Business Studies, heavily influences both his teaching practices and perception of their learners' learning needs. Participant's belief that traditional methods are sufficient results in minimal integration of ICTs in the classroom, potentially limiting the opportunities for learners to engage with technology in their education. The teacher's preference for more traditional forms of professional development further demonstrates their reluctance to explore or adopt ICTs as a tool for enhancing their teaching skills.

I've been teaching for so many years without relying on technology. My experience has shown me that traditional methods work just fine. I'm skeptical about the idea that technology can truly enhance the learning process for Business Studies.

Sub-research question 4: How do teachers incorporate ICTs in the teaching of Business studies?

4.4.5 Theme 5: ICT integration in teaching

TAM, which focuses on perceived utility and ease of use, provides a fundamental viewpoint on how people learn to embrace and use new technology. TAM is essential for comprehending early attitudes towards ICTs in the context of Business Studies. But in order to get a whole picture, we also need to look at how these ICTs are really used and integrated in the classroom. In order to get insight into how technologies actually affect business processes and decision-making in the real world, it is necessary to evaluate how they are implemented, modified and used in practice.

Participant 4 prefers using a whiteboard over a projector because it is easier to set up when compared to the projector.

The participants' experiences show a range of perspectives on ICT integration. Some, such as Participant 2, see technology as an adjunctive tool that strengthens conventional teaching techniques, and she continues to pursue professional development opportunities to better use these technologies.

Despite my reservations about ICTs in the classroom I recognise the importance of staying current with technological advancements as their applications in Business education. Therefore, I am actively engaged in professional development opportunities that focus on integrating ICT into teaching. This includes attending workshops, webinars and courses that demonstrate effective ways to use technology in education.

It is important to note that teachers showed resilience and a dedication to use ICTs in the classroom despite these difficulties. Teachers stated that they worked hard to modify their methods of instruction and looked for ways to overcome the challenges they encountered. This tenacity demonstrated a deep conviction in the usefulness of ICTs in improving learner learning outcomes. Teachers continued to be driven to develop and enhance their teaching strategies in spite of outside constraints, which demonstrated their commitment to the academic achievement of their pupils.

Some, like Participant 3, show caution, favouring traditional techniques over ICTs because they see them as more difficult and distracting.

Mmmhhh well, as someone who prefers traditional teaching methods, I have mixed views about the use of ICTs in Business Studies while I recognise that ICTs can offer some benefits I worry that over relying on technology can lead to distractions and superficial learning rather than deep critical engagement with the materials.

In the meantime, Participant 4 shows a preference for particular ICT products based on their usefulness and convenience of use.

As an advocate for integrating ICT in Business Studies I believe these technologies are intensive enhancing teaching and learning experiences as they provide access to vast resources such as online databases industry reports and real time market data which enrich learners understanding of Business concepts with their current and relevant information they also facilitate learning through simulations, virtual tours of businesses and multimedia presentations. Ultimately integrating ICT prepares learners to navigate the complexities of modern business environments equipping them with essential digital skills and enhancing their readiness for future careers in various sectors of the economy.

Participant 2 is an advocate for incorporating ICT into Business Studies, believing that these tools considerably improve teaching and learning experiences. ICTs enable learners to get access to a wealth of resources, including online databases, industry reports and real-time market data, which expand their grasp of business principles by providing current and relevant information. They can make learning more dynamic and interesting by including simulations, virtual company visits and multimedia presentations. Finally, incorporating ICTs enables learners to handle the complexity of current business settings by providing them with vital digital skills and increasing their preparation for future professions in a variety of industries.

Participant 6’s responses indicate that ICTs are not a part of their teaching practice. The teacher’s reluctance to incorporate these tools is rooted in a strong belief that traditional methods, such as textbooks and face-to-face discussions, are more effective. This attitude significantly limits the potential use of ICTs in the classroom, and as a result, learners in this teacher’s class may miss out on the potential benefits of interactive and multimedia learning tools. The respondent’s preference for a system that has "worked for many years" also

highlights a resistance to change, which may prevent the exploration of new methods or the integration of technology into their teaching practice.

I'm not one to use ICTs in my lessons, but some of my colleagues use projectors for presentations or to show online case studies. I just prefer my textbooks and a good old chalkboard.

Participant 5's responses highlight a strong commitment to traditional methods, which results in minimal or no use of ICTs in the Business Studies classroom. Despite recognising that some colleagues use technology like projectors, the respondent does not see ICTs as necessary for teaching and learning. His focus remains on textbooks, chalkboards, and face-to-face interaction. This resistance to change may limit both the teacher's own professional development and the opportunities for learners to engage with modern technological tools that could enhance their understanding of Business Studies.

I'm not one to use ICTs in my lessons, but some of my colleagues use projectors for presentations or to show online case studies. I just prefer my textbooks and a good old chalkboard.

Participant 10 demonstrates a strong commitment to incorporating ICTs into her Business Studies teaching. The use of a variety of digital tools ranging from presentation software and multimedia to online platforms for collaboration indicates an innovative approach that enhances both teaching and learning experiences. The teacher sees ICTs as effective tools for engagement and concept visualisation, helping to break down complex business concepts in a more interactive and accessible manner.

In my classroom, I use PowerPoint presentations, educational videos, and interactive quizzes. I also encourage learners to research using online resources and collaborate on projects via online platforms.

By using Google Classroom and other digital resources, the respondent also creates a dynamic learning environment, where learners are encouraged to take responsibility for their learning through independent research and collaborative projects. This proactive use of ICTs aligns with contemporary educational trends, which aim to prepare learners for a technology-driven world while supporting diverse learning styles and needs.

I mainly use laptops, projectors, and interactive whiteboards. I also use learning management systems like Google Classroom to share materials and assignments with my learners.

Participant 10 actively integrates ICTs into her teaching, viewing them as powerful tools for engaging learners and enhancing understanding in Business Studies. This approach contrasts with teachers who are more resistant to using ICTs, showing how technology can effectively support learner learning in modern classrooms.

4.5 Field notes

Field notes are essential parts of qualitative research because they offer deep insights into social phenomena in their natural environments (Lofland et al., 2022). Field notes are comprehensive documentation that researchers create while conducting fieldwork (Mohajan, 2018). They include descriptions of the environment, participant interactions, and their own observations and comments (Mohajan, 2018). In this study, in addition to being a memory aid, the field notes were used as an analytical tool that helped the researcher find themes, patterns and contextual elements that affect an individual's or group's behaviour (Emerson et al., 2014). The researcher employed field notes to supplement the qualitative data, providing a more nuanced image of the location through thoughts and comprehensive descriptions. By engaging directly with the participants, the researcher got significant insights into their social dynamics and behaviours, mirroring Kawulich's (2018) theories. This method captured the nuances of interactions and contextual circumstances, unlike the use of surveys or interviews alone.

After taking field notes, the insights collected added a rich, contextual dimension to the interview results. While the interviews provided direct replies from participants, the field notes caught the intricacies of the surroundings, body language and unspoken dynamics that could not be represented verbally. For example, monitoring how participants interacted with their environment or with other people during the study process showed subtle patterns and behaviours that helped me better understand their reactions. These observations frequently clarified or expanded on interview data, assisting in triangulating the findings and ensuring a more thorough understanding of the study. The field notes improved the total data by giving a richer context and identifying inconsistencies or alignments between verbal assertions and non-verbal acts, resulting in a more comprehensive understanding of the topic under research.

Teachers were easily able to explain in the interview how they were utilising ICTs to improve teaching and learning. They responded to every question with a lot of assurance. Teachers took some time to respond to questions on how ICT enhanced their subject matter expertise. It demonstrated that, in contrast to when they were asked how they used technology for teaching and learning, they required time to reflect. Teachers appeared to find it difficult to react when asked how ICT should be able to enhance the curriculum. They seemed to struggle to answer those specific questions, which is why it took them longer to react. The oldest

participants looked bored as the interview proceeded, whereas the younger ones with less than five years of experience were eager to answer the questions. Although I was unable to determine how the teachers were feeling, their facial expressions were fine. All I saw in them was earnestness. Without being pushy or irritated, every teacher answered the questions in a clear and concise manner. When answering questions, teachers made little gestures; you could see them move their hands slightly and turn their heads slightly to indicate that they were considering. Negative attitudes were not conveyed by any gestures.

4.6 Observations

I maintained a certain amount of impartiality by utilising non-participant observation during the class visits, allowing me to focus on capturing behaviours without changing the settings (Lofland & Lofland, 2020). I proceeded to see the participants' classrooms after touring the schools to do the classroom observations.

In School A, I observed Participant 1. This was a Grade 11 class consisting of 45 learners. The lesson started at 9:30 and ended at 10:30. The class was equipped with a school laptop and a smart board that was already plugged in, as well as projectors that appeared to be in excellent use. The participant seemed to be proficient in utilising this equipment, as he did not struggle.

The lesson started with the participant instructing the learners to exchange their books with their partners, allowing them to check whether they completed the homework given the previous day. Learners were then instructed to take out their red pens or pencils to mark their partner's work. The participant read out each question and picked a few learners to write the answers on the board. I thought this activity was very good for the learners, as it encouraged independence. After that, learners were given ten minutes to write the corrections.

The teacher then presented a Business Studies lesson on the marketing function. He explained the lesson outcomes, which should be achieved at the end of the lesson. He used the smartboard to show PowerPoint slides from which learners could copy notes. He further displayed a YouTube video that provided a practical example of the marketing function. The learners seemed to enjoy the lesson as they actively engaged and asked questions. To wrap up the lesson, the participant used his laptop to set up a Kahoot quiz based on the lesson; he then used an HDMI cable to connect the laptop to the smartboard so that all learners could see. For this activity, learners were requested to use their phones. This was a formative assessment to help the teacher determine if the learners understood the lesson and whether

the lesson outcomes were met. Lastly, the teacher gave the learners worksheets to complete at home.

I further proceeded to School B, where I observed Participant 4. This was a Grade 10 class with 40 learners. The lesson started at 13:00 and ended at 14:00. The classroom only had a projector. To use the projector, the teacher had to go to the administration office to borrow a school laptop. They also had the option of using their personal laptops. The teacher struggled to set up the projector screen as it was not displaying what was shown on the laptop. She had to ask for assistance from another teacher. This resulted in the lesson starting 20 minutes later.

The lesson started with the participant showing learners a video of counterfeit clothing brands and how they negatively impact South Africa's economy. This was done to introduce the lesson on Contemporary Socio-Economic Issues. The learners were very excited while watching the video and immediately engaged in the lesson. The lesson proceeded with the participant giving them notes to copy from their textbooks and an activity to complete. Learners were given 15 minutes to complete this activity, after which they had to leave their books with the participant for marking.

I then observed Participant 6, who taught a Grade 12 Business Studies class in School C. The classroom was well equipped with a smartboard and a data projector, but the participant opted not to use them. Instead, he relied on traditional teaching methods, such as verbal explanations and writing on the chalkboard. The lesson was on Human Resource Management, and the participant introduced the topic by asking learners to brainstorm qualities of a good manager. Learners wrote their responses on the chalkboard. While the discussion was engaging, I noticed that the teacher had to repeat information multiple times, which could have been avoided if visual resources were used. The participant later explained that he found the technology to be a distraction rather than a benefit, as technical glitches often wasted time. Instead, he preferred printed worksheets, which he distributed towards the end of the lesson for learners to complete as homework.

In School D, I observed Participant 8, who taught a Grade 10 class. The classroom had a data projector but no smartboard. The participant attempted to use a PowerPoint presentation but struggled with connectivity issues between the laptop and the projector. After multiple attempts, the participant abandoned the effort and proceeded with a verbal explanation. Learners seemed disengaged, and many appeared distracted. To regain their attention, the teacher introduced a short class discussion on the topic of Entrepreneurship. Learners responded well to real-life examples, but the lack of visual aids made it difficult for some to

follow. This observation highlighted how ICT challenges could lead to time loss and decreased engagement when not effectively managed.

Lastly, I observed Participant 10 in School E, teaching a Grade 11 class. Unlike the other participants, this teacher embraced ICT fully and integrated multiple digital tools into the lesson. The classroom was equipped with a smartboard and a personal laptop. The participant used an interactive simulation tool to demonstrate different pricing strategies in Business Studies. Learners were actively involved, as they used their smartphones to interact with the simulation and provide real-time feedback. The teacher also incorporated an online polling system to gauge learners' understanding. The lesson flowed seamlessly, and the learners remained highly engaged throughout. However, some learners struggled to access the online tools due to internet connectivity issues, which resulted in slight delays. The participant acknowledged this as an ongoing challenge but explained that he encouraged learners to share devices to mitigate the issue.

It is interesting to note that I observed both younger and older teachers, with some struggling more than others with the available technology. This resulted in a significant amount of teaching time wasted for some participants, such as Participant 4 and Participant 8. The two older teachers showed a reluctance or fear of using technology despite what they expressed in the interviews. Age and experience appear to be factors that influence teachers' confidence in ICT integration. While Participant 10 showcased confidence and efficiency in using ICT, others, such as Participant 6, opted to avoid it altogether. This demonstrates the varying levels of ICT adoption and highlights the need for additional training and support to bridge these gaps.

To guarantee the trustworthiness, improve the credibility and triangulate the data, as well as the depth of qualitative research, interviews, field notes and observations were integrated (Creswell & Poth, 2018). This all-encompassing method enabled a thorough examination of intricate social phenomena and motivated me to continue reflecting on my own role in the research process.

Section B: Findings

Findings about teachers' attitudes

Despite admitting the potential benefits of ICTs, the teachers questioned showed a strong preference for conventional teaching techniques. They are steadfast in their belief that traditional methods are more successful. Technology cannot take the place of teachers. The connection between teachers and learners cannot be replicated by virtual learning, even if the majority of learners spend a lot of time riveted to screens (Arhin, et al., 2022; Gcabashe &

Ndlovu, 2022). The truth is that teachers are not going to be replaced by educational technology improvements (Suleiman et al., 2020). Rather, a lot of the contemporary teaching strategies are only advancements over previous approaches. Additionally, teachers stress the need of more conventional teaching methods like conversation and direct instruction, which are essential for developing learners' critical thinking abilities and enhancing their learning (Barak & Dori, 2015; Romeo, Lloyd, & Downes, 2014).

They regard ICTs as an aid to their instructional methods rather than as essential. The findings demonstrated a wary attitude toward ICTs. Teachers are aware that although ICT tools have their uses, they frequently cause more distractions than benefits when used in the classroom. This position is defined by a general reluctance to rely too much on technology and a preference to continue using tried-and-true conventional techniques (Al-Emran et al., 2019).

Rather than using ICTs directly in the classroom, their primary usage is for personal growth through activities like viewing webinars and reading online publications (Jamieson-Procter et al., 2013). Individual participants have different perspectives towards different ICT tools. Although some educators view technology as a helpful addition for keeping up with current developments in education and for fostering personal growth, many are nevertheless cautious to integrate it heavily into their lessons. Some see ICTs as potentially helpful, but they still choose traditional approaches because they do not want to deal with distractions or efficacy issues (Baris, 2015). In a nutshell the teachers' views on ICTs in Business Studies instruction show a clear preference for conventional approaches, with ICTs being viewed as supplemental rather than essential to their pedagogy (Aladwani, 2020).

According to the study, teachers of Business Studies have varying views on ICTs: from cautious and selective to enthusiastic yet cautious. These perspectives have a huge influence on how ICTs are used in the classroom because they acknowledge the difficulties and possible advantages of using technology in the classroom (Johnson et al., 2016). The participants have varying attitudes towards the use of ICTs in teaching Business Studies. Some feel more comfortable with traditional methods, while others advocate for the integration of ICTs for enhanced learning experiences. It is important to note that teachers showed resilience and a dedication to use ICTs in the classroom despite these difficulties. Teachers stated that they worked hard to modify their methods of instruction and looked for ways to get over the challenges they encountered. This tenacity demonstrated a deep conviction in the usefulness of ICTs in improving learner learning outcomes (Seenivasan, 2024). Interestingly, some teachers reported using ICTs primarily for personal growth, rather than in the classroom. These teachers engaged with online resources, such as webinars and educational articles, to stay updated with modern teaching practices, but were hesitant to incorporate these tools

directly into their lessons. This demonstrates a selective use of technology, with an emphasis on professional development rather than pedagogical application (Heitink et al., 2016).

The research also revealed that teachers with more than ten years of experience in teaching Business Studies tend to express a more wary and skeptical view of ICTs. These educators prefer the traditional methods they have honed over the years, even when faced with newer technologies that might improve learner engagement or streamline lesson delivery. Participant 1, for instance, reported using ICTs sparingly, only when they could enhance traditional methods without overshadowing them. This cautious approach reflects a broader reluctance to rely on technology, which is common among more experienced teachers who have developed strong teaching practices over time (Philipsen et al., 2019).

In contrast, other participants who were more enthusiastic about ICTs recognised their potential to improve engagement and help learners better understand complex business concepts. These teachers used technologies like laptops, PowerPoint presentations, smartboards, and interactive quizzes to make lessons more dynamic and visually stimulating. While these teachers are generally more open to technology, they also acknowledge that ICT integration comes with its challenges, including technical difficulties, distractions, and the need for more preparation time (Zimmerman et al., 2023)

The interviews and field notes revealed a spectrum of attitudes among Business Studies teachers towards integrating ICTs into their teaching practices (Mtebe & Raisamo, 2014). The research question explored how these attitudes influence teaching and learning with ICTs in their subject (Mtebe & Raisamo, 2014). Teachers with more than ten years' experience teaching Business Studies, demonstrate a wary and dubious view of ICTs (Shin, 2018). Two participants are more in favour of conventional teaching approaches, even if they are aware of their technology's potential advantages, such as producing presentations and offering current information.

ICTs are seen to have the potential to diminish human relationships and the depth of involvement that in-person approaches provide (Nguyen et al., 2022) . Participant one's strategies involve using ICTs sparingly, making sure they enhance rather than replace conventional methods. While the other three participants displayed a more enthusiastic approach towards ICTs, employing resources like laptops, PowerPoint presentations and smartboards to make classes exciting and easy to convey. These participants appreciate how ICTs improve learner engagement in the classroom by introducing interactive and visual aspects. They do, however, recognise several difficulties that might affect learners' efficacy and equity in learning, including technical problems, the requirement for additional preparation

time, possible diversions and differences in learners' access to technology (Nguyen et al., 2022).

The way teachers integrate ICTs into the classroom is influenced by their views (Mirzajan et al., 2016). Because Participant 2 prefers conventional approaches, ICTs are employed judiciously and selectively, with the goal of enhancing rather than replacing essential instructional techniques. On the other hand, Participant 3's excitement with ICTs results in increased usage, albeit moderated by worries about possible diversions and practical difficulties. One of the key concerns is that ICTs may divert learners from their learning objectives. According to research, while technology can help with engagement, it can also lead to shorter attention spans and more multitasking, which can impede deep learning (George, 2024). For instance, learners frequently find themselves switching between instructional content and social media, which detracts from their concentration on the subject (Zimmerman et al., 2023). Furthermore, the success of ICT integration is strongly dependent on the ability of educators as well as learners to use these devices. Many teachers, particularly those who prefer conventional techniques, may feel unprepared to adequately integrate ICTs into their classes (Scherer et al., 2019). This aligns with the Technology Acceptance Model (TAM), which suggests that teachers who perceive ICT as difficult to use (low perceived ease of use) are less likely to adopt it. Additionally, using the TPACK framework, it is evident that some teachers have strong content knowledge (CK) and pedagogical knowledge (PK) but struggle with technological knowledge (TK), leading to hesitant or selective ICT integration (Scherer et al., 2019). This highlights the need for professional development to strengthen their TPACK and enhance ICT implementation.

Furthermore, technology in education is accessible and equitable. Not every learner has equal access to devices and stable internet connections, resulting in inequities in learning possibilities (Kelly, 2014). It is critical to provide an inclusive learning environment in which all children may fully engage in classroom activities, regardless of socio-economic status. The digital gap is a substantial obstacle that must be addressed (Van Dijk, 2020).

The research also showed the different approaches teachers took to deal with the difficulties posed by ICT use (McConnell et al., 2013). While certain teachers explored extra training opportunities to improve their technology abilities, others shared their experiences working with others to discuss ideas and resources (McConnell et al., 2013). This cooperative method demonstrated the existence of a community of teachers that may be a helpful asset for educators who are working to enhance their ICT integration (Asad et al., 2021; Park & Son, 2022). The results underscored the need of cultivating cooperative settings that promote continuous career advancement.

Challenges in the use of ICTs in Business studies

Based on interviews teachers indicated that digital distractions made it harder to keep learners focused. ICTs can improve learning, but if learners are not utilising them properly, they can also cause disengagement. This is confirmed by Enrique (2019) and Park (2022). Significant hurdles included technical issues including hardware failures, software bugs, and sporadic internet access (Raman & Yamat, 2014). Lessons were often interrupted by these problems, which also took more time to prepare for and troubleshoot (Phale et al., 2021).

Compared to traditional ways, integrating ICTs into classrooms required greater planning and modification of teaching strategies (Chetty et al., 2014). Teachers discovered that creating engaging ICT-based classes took a lot of effort and careful planning. It was concerning that certain learners, especially those from underprivileged families, did not have equitable access to technology. Instructors were concerned that differences in learners' access to technology would result in different learning opportunities (Nilson, 2016).

Some teachers are wary or unwilling to completely integrate technology into their lessons due to the difficulties involved in doing so (Cullum, 2024). Reluctance to rely substantially on ICTs was influenced by worries about learners' diversions and technological dependability (Ertmer & Ottenbreit-Leftwich, 2013). While there are possible benefits to technology, they noted that they might occasionally be overshadowed by the difficulties, which affected their overall perspective on technology integration. Teachers proposed that some of the issues may be resolved through using learners' current digital abilities, cooperating with IT support personnel, and proactively preparing (Shifflet & Weilbacher, 2015).

While teachers are aware of the potential advantages of ICTs in Business Studies education, they also confront a number of external obstacles, including needs for preparation, equality concerns and technological difficulties. Their views towards technology are shaped by these obstacles, which results in a cautious yet optimistic approach to its incorporation into education (Lawrence & Tar, 2018). In this study, participants felt positive about using ICTs but faced challenges, such as power outages affecting their use of smartboards for teaching. Power outages throw homes and institutions into complete darkness, and unscheduled load shedding throws routines off and lowers academic performance. Power outages have a major effect on learners, particularly while they are preparing for exams (Jianjun et al., 2018). These technical glitches frequently disrupt lessons, increasing dissatisfaction among learners as well as teachers.

When software faults occur, they can result in wasted teaching time, reduced engagement and an atmosphere in which learners may get frustrated or bored with the information being

given. Furthermore, faults might impair the efficiency of ICT technologies designed to improve learning, since learners may grow hesitant to rely on technology. Frequent technological issues may demand further training for both teachers and learners, complicating the incorporation of technology into education (Khan et al., 2022). Overall, responding quickly to software issues is critical to maintaining a smooth and effective learning environment.

Encountering software issues in the classroom can have a substantial influence on learning (Holmes, 2020). Irregular access to trustworthy technology produces inequities in learning possibilities, resulting in learner dissatisfaction and disengagement (Helsper, 2021). For example, sluggish internet connections or malfunctioning equipment might disrupt course flow, leading to delays and disruptions that detract from the educational experience (Handley, 2014). Furthermore, poor technical assistance frequently leaves teachers and learners feeling unprepared to face technological problems, limiting the successful integration of ICT resources in the classroom. Finally, a strong and dependable technological infrastructure is critical for creating an engaging and successful learning environment (Darling-Hammond et al., 2017).

Another finding in the study was the challenge of keeping learners engaged when using ICT tools in the classroom. According to research, keeping learners focused and engaged in the classroom when using ICT tools is vital for improving learning outcomes, encouraging critical thinking and decreasing distractions (Tlhoaele et al., 2014). This favourable environment promotes a sense of community and motivation, which improves classroom dynamics (Andres, 2020).

Time was also found to be a major challenge for educators to use ICTs which makes some educators hesitant to rely on using ICTs in the classroom. Due to their busy schedules and dense curriculum, teachers sometimes find it challenging to integrate new technology into their lesson plans (Ghavifekr et al., 2016). This difficulty may result in a cursory knowledge of ICT resources, which keeps educators from seeing how fully they might improve the education of learners (Padayachee, 2017). One of the main reasons that time constraints are problematic is the demand to cover large curriculums in a condensed academic year. Research by Hattie (2017) found that the depth of learning can frequently be eclipsed by the quantity of material that teachers are expected to teach. Teachers may feel that they don't have enough time to properly investigate and apply ICT when they are preoccupied with achieving curricular requirements and getting kids ready for tests (Gerver, 2014). Teachers persisted in using ICTs to improve learner learning and their own teaching methods despite the challenges. This resilience, together with a readiness to cooperate and adjust, offered a positive outlook for the

use of technology in education going forward, highlighting the necessity of ongoing development projects and assistance to enable teachers in their work.

Another significant concern expressed by teachers was the digital divide, particularly in terms of learner access to technology. Not all learners have equal access to devices or reliable internet connections, which can exacerbate inequities in learning opportunities (Kelly, 2014; Van Dijk, 2020). Teachers are aware that these disparities can hinder their ability to implement ICTs effectively and ensure that all learners can engage with the content equally. This highlights the need for equitable access to technology and the importance of fostering an inclusive learning environment where all learners have the resources they need to succeed.

Another significant challenge noted by the participants was the pedagogical appropriateness of ICT use in Business Studies. Teachers were concerned about whether the integration of ICTs would enhance the learning process or lead to superficial learning. For example, Participant 8 raised doubts about whether ICTs genuinely contribute to deeper understanding in subjects like Business Studies and Accounting, arguing that traditional methods like direct instruction were sufficient for conveying critical concepts. This concern highlights the pedagogical mismatch that some teachers perceive between certain technologies and the depth of content in Business Studies, especially when complex business concepts need to be thoroughly explained (Paylidou et al., 2021).

One of the most pressing challenges highlighted by multiple participants was the issue of access to technology. Participant 10, who uses ICTs like laptops and interactive whiteboards, pointed out that not all learners have access to these tools at home, which creates a disparity in learning opportunities. The lack of equal access to devices or stable internet connections makes it difficult for some learners to fully engage with technology-based assignments or collaborate online (Kencana, 2025). Participant 5 and Participant 6 echoed similar concerns, noting that not all learners had the resources necessary to keep up with the digital component of their lessons.

Benefits in the use of ICTs in Business Studies

Despite these challenges, Business Studies teachers recognised the benefits of ICTs. Proactive planning, collaboration with IT support staff, and leveraging learners' digital skills can help mitigate these obstacles and enhance the overall learning experience in Business Studies. Findings indicate that they use ICTs for accessing information, research and creating interactive presentations. Overall, while they acknowledge the advantages of ICT tools, they prefer traditional teaching approaches for teaching core concepts (Kumar, 2024). Effective preparation helps teachers to anticipate probable technological challenges and establish contingency plans, so that classes can continue smoothly even in the face of disruptions

(Nyoni, 2022). Collaborating with IT support workers gives teachers access to the tools and skills they need to handle technical issues quickly, reducing disruptions. Furthermore, identifying and employing learners' digital talents may create a more dynamic learning environment in which learners actively contribute to troubleshooting and exploring technology, hence increasing engagement and ownership of their educational experience (Regehr et al., 2017). According to earlier research, incorporating ICT into the classroom enhances learner learning and maximises their potential for active learning (Singh, 2019). ICT technologies may increase learners' attention by presenting content in new ways that make learning more engaging and dynamic. By reducing paperwork and enabling more one-on-one contacts with learners, ICT technologies help teachers achieve a better work-life balance (Handerson, 2020). The learners are finding the classes and homework to be more engaging, and in cases this improves their academic performance and grades (Domingo & Garganté, 2016). That being said, technology is incredibly important to education. It consists of machines, computer networks, media and communication. New pedagogies have evolved as a result of ICT use in education (Alemu, 2015). The methods that technology is being utilised in education are always evolving and include web-based education, cloud-based education, blended learning, multimedia in the classroom and e-learning (Alemu, 2015).

One of the most commonly cited benefits of ICTs in the classroom was their ability to increase learner engagement. Participant 10 specifically mentioned how tools like PowerPoint presentations, interactive quizzes, and educational videos made lessons more dynamic and interactive, allowing learners to engage with the content in varied ways. This variety in teaching methods helps cater to different learning styles, making lessons more appealing and accessible for a broader range of learners (Clark & Mayer, 2023).

The use of interactive whiteboards and online platforms for collaboration was also seen as a way to make the learning environment more engaging (Clark & Mayer, 2023). Participant 10 noted that the use of Google Classroom to share resources and assignments allowed for more interactive learning experiences, where learners could access information quickly, participate in online discussions, and track their progress in real-time. This sense of interactivity creates an environment where learners are more likely to stay focused and involved in their learning (El-Sabagh, 2021).

While many teachers were hesitant to use ICTs in the classroom, they did acknowledge the potential for ICTs to support their professional development. Participant 7 admitted that although they did not use ICTs directly in their teaching, they recognized the value of using technology for personal growth, such as attending online workshops, webinars, and reading digital publications. These activities help teachers stay current with new educational practices

and develop new teaching strategies that could eventually be incorporated into their classrooms (El-Sabagh, 2021). This reflects a broader trend where teachers, even if they do not immediately use ICTs in their teaching, are willing to engage with technology to improve their own skills and knowledge, ultimately benefiting the learners they teach (El-Sabagh, 2021)

How easy to use or useful Business Studies teachers find the ICTs

Based on the interviews the results for this research question indicate that teachers' perceptions of how easy it is to use ICTs, differed (Tschannen-Moran & Woolfolk Hoy, 2014). With training at the university level, Participant 1 said that ICTs were extremely simple to use. His past experience and familiarity with the technology were cited as the reasons for their comfort. Conversely, Participant 4 indicated uneasiness when using ICTs, suggesting a lower perceived level of usability (Ross & Bruce, 2020). This unease points to a lack of knowledge or familiarity with technology, which detracts from their overall enjoyment.

The teachers pointed out that their favourable view of ICTs greatly improved usability. Their love of technology, together with approachable resources and ongoing professional growth, made it easier for them to successfully incorporate ICTs into their teaching (Ladson-Billings, 2018). They overcame obstacles and made efficient use of technology thanks to their proactive attitude and upbeat mindset (Hobson et al., 2019). ICT usability was further aided by the availability of helpful tools like instructional applications and continuing education. As a result of continuous professional development participants reported feeling more competent and confident while using ICT tools (Zheng et al., 2016).

Teachers were more inclined to investigate and use new technologies when they had a favourable attitude toward ICTs. Their usability and the effective incorporation of ICTs into their teaching methods were greatly aided by this enthusiasm. Those who were less at ease using ICTs found it more difficult to make good use of these resources. This uneasiness may stem from a lack of training or a bad attitude towards technology, which would affect how they utilise and integrate ICTs in general (Pearman et al., 2021).

Business Studies teachers' comfort levels and attitudes towards technology have a big impact on how easy and useful they perceive ICTs to be (Wasserman & Migdal, 2019). While discomfort and unfamiliarity might be obstacles, positive attitudes and prior preparation facilitate a more seamless incorporation of ICTs into teaching methods. Enhancing teachers' ICT skills and confidence requires ongoing professional development and the provision of complementary tools (Muganga & Ssenkusu, 2019).

This section also discussed the simplicity of use and perceived utility of ICTs, which are important factors in technology adoption. Users' judgments of how easy it is to use ICT

technologies, as well as the perceived advantages they provide, have a significant impact on their readiness to incorporate these tools into their activities. The findings showed that participants use various ICT tools like a whiteboard, smartboard, computer and projector in teaching Business Studies. They believe that ICT integration enhances teaching by providing access to resources, facilitating interactive learning, and fostering teamwork and critical thinking among learners (Kunter et al., 2019).

According to research, continual training provides teachers with the most up-to-date skills and tactics for incorporating technology into their method of instruction (Wetzel et al., 2014). Participating in workshops, webinars and collaborative learning communities allows teachers to keep current on new technologies and pedagogical techniques that encourage active learning (Higgins et al., 2016). This investment in professional development not only gives them more confidence in utilising ICTs, but it also allows them to construct classes that cater to different learning styles, resulting in increased learner engagement and involvement (Wetzel et al., 2014).

Participant 6 demonstrated mixed feelings about ICTs. She expressed that she does not use any ICTs in their lessons, preferring textbooks and chalkboards. While she recognise that colleagues use projectors and other ICT tools for presentations, they do not find them necessary for their teaching approach. Their attitude towards technology is one of reluctance, and they continue to rely on traditional methods that they feel are more effective and comfortable (Wetzel et al., 2014). Participant 5 similarly expressed a preference for traditional methods, such as textbooks and chalkboards, over ICTs. He does not actively incorporate ICTs into their teaching but noted that some colleagues use them for presentations and case studies. His reluctance towards ICTs suggests they do not find them essential or particularly useful in his teaching (Nguyen et al., 2022).

Participant 7 expressed that ICTs are not necessarily needed for Business Studies, as traditional methods of direct instruction and reading work well for them. Despite this, they admitted that ICTs can be useful for showing case studies and presenting new material. However, they find themselves more comfortable with traditional methods and are hesitant to fully integrate ICTs into their teaching, believing that the core teaching content and human interaction are more important.

Participant 8 voiced similar concerns about the usefulness of ICTs but was skeptical about their effectiveness in enhancing the learning of Business Studies or Accounting. He noted that although technology can be helpful in some instances, it often creates distractions and does not seem to improve understanding, particularly in subjects like Business Studies. This

indicates that while they recognize the potential benefits, they struggle to see clear advantages over traditional methods.

How teachers incorporate ICTs in the teaching of Business Studies

The interviews provided insights into how Business Studies teachers incorporate ICTs into their teaching practices (Howe et al., 2019). Teachers integrate ICTs by ensuring that technology supports rather than replaces traditional methods like lectures, discussions and problem-solving exercises (Buehl & Beck, 2014). To stay updated, participants engaged in professional development related to ICTs, which helps them adapt and incorporate new technologies effectively. Teachers who preferred more conventional approaches like lectures and textbooks also reported reluctance to use ICTs. They discover that technology may occasionally cause more distraction than help. Although they concede that certain ICT tools could be helpful, they are typically cautious about relying too much on technology (Miller, 2019).

Participant 3 uses ICTs very little and is reluctant to stray from tried-and-true methods of instruction. She has a favourable view of ICT use, with a preference for white smartboards over projectors because of how simple they are to set up. This participant indicates that she has a preference for particular technologies that improve their ability to instruct and organise the classroom (Liu et al., 2020). Teachers use ICTs for a variety of tasks, such as doing research, compiling data, creating interactive presentations and executing the flipped classroom model (Vandeyar, 2015). However, each participant's integration of these technologies differs to varying degrees. Some employ ICTs to enhance their instruction and include learners in interactive learning, but others stick to conventional approaches because they have doubts about the usefulness and efficacy of technology (Menasha, 2014).

The incorporation of ICT into classrooms entails not just implementing new tools, but also radically altering instructional techniques to better match the demands of 21st century learners (Wasserman & Migdal, 2019). The increased emphasis on digital literacy and technical competency highlights the importance of teachers adopting creative teaching approaches that use ICTs. This integration creates both possibilities and problems for educators, who must manage the intricacies of combining various technology tools while retaining successful teaching techniques. Understanding how ICT may be effectively integrated into teaching necessitates a thorough evaluation of its effects on learner engagement, learning results and the entire educational experience (Van Scotter &; Garg, 2019).

The findings from the participants reveal a diverse range of attitudes and approaches toward incorporating ICTs in the teaching of Business Studies. Participants 10, 3, and 1 actively

embrace ICTs, using tools like PowerPoint presentations, Google Classroom, projectors, and online research platforms to engage learners and enhance learning. These teachers see technology as a valuable supplement to traditional methods, helping learners visualise complex business concepts and collaborate on projects (Tomlinson, 2017). However, other participants, such as Participants 6, 5, and 7, remain more cautious or resistant. They prefer traditional methods such as textbooks, chalkboards, and direct instruction, believing these time-tested techniques are more effective for teaching Business Studies. Despite recognising the potential of technology to improve engagement, these teachers limit its use, seeing it as supplementary rather than essential (Tomlinson, 2017).

Teachers' use of ICTs is influenced by their personal comfort with technology and their teaching philosophy. Participants 6 and 7, who have more experience, demonstrate a cautious approach, using technology sparingly and primarily for professional development (e.g., attending webinars or reading online publications) (Vandeyar, 2015). Participants 10 and 3 are more open to ICTs, using them for collaboration, interactivity, and independent research. However, concerns about distractions, technical difficulties, and equitable access to technology remain prevalent among all participants, highlighting the challenges teachers face in integrating ICTs effectively (Vandeyar, 2015). Overall, while the use of ICTs is seen as an enhancement rather than a replacement for traditional methods, it is clear that teachers' attitudes, as seen in the varying perspectives of Participants 6, 5, 7, 3, 1, and 10, significantly shape the way technology is incorporated into Business Studies teaching.

4.7 Conclusion

The data gathered for the study was presented and discussed in this chapter, with an emphasis on the viewpoints and experiences of Business Studies teachers with regard to the use of ICTs in the classroom. The study questions were addressed through the analysis of the data, which provided insightful information on the attitudes of educators and the difficulties they encountered when incorporating technology into their lesson plans. The chapter attempted to shed light on the issues surrounding the use of ICT in education by methodically examining the use in Business Studies. According to this research, most teachers had an overall favourable view on the usage of ICTs. They were excited about the potential advantages of technology, emphasising how it may improve learner participation and provide them access to more resources. Teachers saw that ICTs enabled more dynamic and interactive learning settings, which matched their objectives of supporting a learner-centered approach. This positive outlook was in line with the body of research that highlights the transformational potential of technology in education when used skillfully (Eickelmann & Venneman, 2017).

Chapter 5: Conclusions and Recommendations

5.1 Introduction

A summary of the research, including the main purpose and the importance of determining how Business Studies teachers feel about using ICTs in the classroom, opens the chapter. It provides a thorough analysis of the results, emphasising the themes that arose from the data analysis. This part provides a thorough knowledge of the present state of ICT usage in education by highlighting the positive attitudes of teachers as well as the difficulties they faced while incorporating technology into their lesson plans. The chapter explores the chosen theoretical framework and technique that informed the research after discussing the findings. It looks at how the exploratory case study design and interpretivist methodology offered a strong basis for comprehending the complexity of teachers' experiences. This section examines the benefits and drawbacks of the selected approaches, highlighting how well they capture the complex viewpoints of teachers and how they engage with technology in the classroom. The chapter ends with suggestions for more study, highlighting topics that call for more investigation to improve knowledge of ICT integration in education. It supports research focusing on learners' outcomes connected to ICT use as well as studies that examine the long-term effects of professional development on teachers' technical abilities and attitudes. Future research can help develop better methods for assisting teachers and enhancing the integration of technology in learning environments by filling up these gaps.

5.2 Summary

Chapter 1 of the current study provided an orientation of the study, which included the introduction and background of the research problem. Chapter 1 introduced the primary research question guided by the secondary research questions. These questions focused on teachers’ attitudes towards the use of ICTs in Business Studies. I explained the material that is currently available on teachers' views towards ICT use in Chapter 2, with a focus on its use in Business Studies. Chapter 2 of the study provided a thorough literature review, which focused on exploring teachers’ attitudes toward the use of ICTs in the classroom, specifically in the context of Business Studies.

The chapter began with a detailed overview of ICTs and their integration into education, offering a historical perspective of how ICT tools have evolved in teaching and learning. I then reviewed existing research on teachers' views regarding ICT use and their understanding of the role of technology in enhancing pedagogical practices. This section included discussions on various technological tools such as smartboards, projectors, and laptops and their application in the classroom. Additionally, I examined the obstacles that teachers face when

integrating ICTs, especially in challenging environments like South African township schools. These obstacles ranged from a lack of professional development to limited access to technological resources, which hinder teachers' ability to fully incorporate ICTs into their teaching practices.

The chapter also focused on the theoretical foundation that underpins the study. In particular, I explored the TPACK framework, which served as the lens for understanding the intersection of technology, pedagogy, and content knowledge in Business Studies teaching. Furthermore, I briefly discussed other relevant theories, such as the Technology Acceptance Model (TAM), which helped to contextualize teachers' acceptance of ICTs based on their perceptions of usefulness and ease of us

In Chapter 3 of the research, I discussed the methodological procedures and approaches employed in this chapter to investigate and address the research topics. This chapter gave readers a road map for comprehending the research process by going over the strategic decisions made during the planning, execution and analysis of the present study. In closing, I also explained the data analysis, the study's methodology and ethical issues.

In Chapter 4, the chapter focused on analysing the data that was obtained as well as summarising the findings and linking it back to the literature. An examination of the interview transcripts was part of the study. The summary of the primary research question, which served as the basis for the secondary research questions, were covered in the current section, after which the summary of the secondary research questions was covered.

5.3 Summary of the Results: Secondary Research Questions

The goal of the study was to investigate the teachers' attitudes towards the use of ICTs in Business Studies. Information and technology adoption are critical 21st century skills. Teaching strategies must be modified for effective technology integration, and barriers to technology adoption, such as a lack of professional development opportunities and unfavourable attitudes towards technology, must be addressed (Wannas et al., 2022; Gleeson & Davison, 2016; Park & Son, 2022). Improving the use of technology in education requires resolving issues connected to technology and comprehending the attitudes of instructors. The primary research question is: What are teachers' attitudes towards the use of ICTs in teaching Business Studies? The secondary research questions that guide the main research question are considered below, and the main results are discussed.

SRQ1: What are the external factors (challenges and benefits) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?

Based on interviews and field notes, teachers indicated that learners' use of digital distractions made it harder to keep them focused. ICTs can improve learning, but if learners are not utilising them properly, they can also cause disengagement, according to participants. Significant hurdles included technical issues including hardware failures, software bugs and sporadic internet access. Lessons were often interrupted by these problems, which also took more time to prepare for and troubleshoot. Compared to traditional methods, integrating ICTs into classrooms required greater planning and modification of teaching strategies (Abel et al., 2022). Teachers discovered that creating engaging ICT-based classes took a lot of effort and careful planning. It was concerning that certain learners, especially those from underprivileged families, did not have equitable access to technology. Instructors were concerned that differences in learners' access to technology would result in different learning opportunities (Abel et al., 2022). Some teachers are wary or unwilling to completely integrate technology into their lessons due to the difficulties involved in doing so. Reluctance to rely substantially on ICTs was influenced by concerns about learner diversions and technological dependability, teachers' passion for ICTs and their awareness of the need for better infrastructure and assistance. While there are possible benefits to technology, they noted that they might occasionally be overshadowed by the difficulties, which affected their overall perspective on technology integration (Willis et al., 2019). Teachers proposed that some of the issues may be resolved through using learners' current digital abilities, cooperating with IT support personnel and proactively preparing. In order to stay current with technical developments and guaranteeing the efficient use of ICTs in the classroom; they stressed the significance of continual professional development (Lomos et al., 2023). In conclusion, even while teachers are aware of the potential advantages of ICTs in business studies education, they also confront a number of external obstacles, including needs for preparation, equality concerns and technological difficulties. Their views toward technology are shaped by these obstacles, which results in a cautious yet optimistic approach to its incorporation into education (Willis et al., 2019).

SRQ2: How easy to use or useful do Business Studies teachers find the ICTs?

Based on the interviews and field notes, the results for the research question indicate that teachers' perceptions of how simple it is to use ICTs differed. With training at a university level, another participant said that ICTs were extremely simple to use. Their past experience and familiarity with the technology were cited as the reasons for their comfort. Conversely, the

other participant indicated uneasiness when using ICTs, suggesting a lower perceived level of usability. This unease points to a lack of knowledge or familiarity with technology, which detracts from their overall enjoyment. The teachers pointed out that their favorable view of ICTs greatly improved their usability (Mirzajani et al., 2016). Their love of technology, together with approachable resources and ongoing professional growth, made it easier for them to successfully incorporate ICTs into their teaching. They overcame obstacles and made efficient use of technology thanks to their proactive attitude and upbeat mindset. ICT usability was further aided by the availability of helpful tools like instructional applications and continuing education. Continuous professional development participants reported feeling more competent and confident while using ICT tools (Mirzajani et al., 2016). Teachers were more inclined to investigate and use new technologies when they had a favourable attitude towards ICTs. Their usability and the effective incorporation of ICTs into their teaching methods were greatly aided by this enthusiasm. Those who were less at ease using ICTs probably found it more difficult to make good use of these resources (Eickelmann & Venneman, 2017). This uneasiness may stem from a lack of training or a bad attitude towards technology, which would affect how they utilize and integrate ICTs in general. Business studies teachers' comfort levels and attitudes towards technology have a big impact on how easily and usefully they perceive ICTs to be. While discomfort and unfamiliarity might be obstacles, positive attitudes and prior preparation facilitate a more seamless incorporation of ICTs into teaching methods. Enhancing teachers' ICT skills and confidence requires ongoing professional development and the provision of complementary tools (Eickelmann & Venneman, 2017).

SRQ 3: How do Business Studies teachers' attitudes influence teaching and learning with ICTs in their subject?

The interviews and field notes revealed a spectrum of attitudes among Business Studies teachers towards integrating ICTs (Information and Communication Technologies) into their teaching practices. The research question explored how these attitudes influence teaching and learning with ICTs in their subject, with more than ten years of experience teaching business studies demonstrates a wary and dubious view of ICTs. Participant 2 is more in favour of conventional teaching approaches, even if they are aware of their potential advantages, such as producing presentations and offering current information. ICTs are seen to have the potential to diminish human relationships and the depth of involvement that in-person approaches provide (Zhu et al., 2016). The participant's strategy involves using ICTs sparingly, making sure they enhance rather than replace conventional methods and displayed a more enthusiastic approach towards ICTs, employing resources like laptops, PowerPoint presentations and smartboards to make classes exciting and easy to convey. This participant

appreciates how ICTs improve learner engagement in the classroom by introducing interactive and visual aspects. They do, however, recognise a number of difficulties that might affect learners' efficacy and equity in learning, including technical problems, the requirement for additional preparation time, possible diversions and differences in learners' access to technology (Saal et al., 2019). The way teachers integrate ICTs into the classroom is influenced by their views. Because Participant 2 prefers conventional approaches, ICTs are employed judiciously and selectively, with the goal of enhancing rather than replacing essential instructional techniques. On the other hand, Participant 3's excitement in ICTs results in increased usage, albeit moderated by worries about possible diversions and practical difficulties. According to the study, teachers of business studies have varying views on ICTs: from cautious and selective to enthusiastic yet cautious. These perspectives have a big influence on how ICTs are used in the classroom because they acknowledge the difficulties and possible advantages of using technology in the classroom (Kaware & Sain, 2015).

SRQ 4: How do teachers incorporate ICTs in the teaching of Business Studies?

The interviews and field notes provided insights into how Business Studies teachers incorporate ICTs into their teaching practices. Teachers integrate ICTs by ensuring that technology supports rather than replaces traditional methods like lectures, discussions and problem-solving exercises. To stay updated, participants engage in professional development related to ICTs, which helps them adapt and incorporate new technologies effectively. Teachers who preferred more conventional approaches like lectures and textbooks also reported reluctance to use ICTs (Pitsoe & Letseka, 2014). They discover that technology may occasionally cause more distraction than help. Although they concede that certain ICT tools could be helpful, they are typically cautious about relying too much on technology. Participant 3 uses ICTs very little and is reluctant to stray from tried-and-true methods of instruction (Rabie, 2016). A favourable view of ICT use, with a preference for white smartboards over projectors is because of how simple they are to set up. This participant indicates that they have a preference for particular technologies that improve their ability to instruct and organize the classroom. Teachers use ICTs for a variety of tasks, such as doing research, compiling data, creating interactive presentation and executing the flipped classroom model. However, each participant's integration of these technologies differs in varying degrees (Khan & Markauskaite, 2018; Shanafelt et al., 2017). Some employ ICTs to enhance their instruction and include learners in interactive learning, but others stick to conventional approaches because they have doubts about the usefulness and efficacy of technology (Khan & Markauskaite, 2018; Shanafelt et al., 2017).

5.4 Summary of the Results: Primary Research Question

This section addresses the primary research question by drawing conclusions from the secondary research questions. Therefore, the primary research question is highlighted, namely: What are teachers' attitudes towards the use of ICTs in teaching Business Studies? Despite admitting the potential benefits of ICTs, the teachers questioned showed a strong preference for conventional teaching techniques. They are steadfast in their belief that traditional methods are more successful. Technology cannot take the place of teachers. The connection between educators and learners cannot be replicated by virtual learning, even if the majority of learners spend a lot of time riveted to screens (Guarino et al., 2014). The truth is that conventional teaching techniques and teachers are not going to be replaced by educational technology improvements. Rather, a lot of the contemporary teaching strategies are only advancements over previous approaches. Additionally, they stress the need for more conventional teaching methods like conversation and direct instruction, which are essential for developing learners' critical thinking abilities and enhancing their learning (Guarino et al., 2014). They regard ICTs as an adjunct to their instructional methods rather than as essential. The findings demonstrated a wary attitude toward ICTs. Teachers are aware that although ICT tools have their uses, they frequently cause more distractions than benefits when used in the classroom. This position is defined by a general reluctance to rely too much on technology and a preference to continue using tried-and-true conventional techniques (Sithole et al., 2017). Rather than using ICTs directly in the classroom, their primary use is for personal growth through activities like viewing webinars and reading online publications. Individual participants have different perspectives towards different ICT tools. Although some educators view technology as a helpful addition for keeping up with current developments in education and for fostering personal growth, many are nevertheless cautious to integrate it heavily into their lessons (Sithole et al., 2017). Some see ICTs as potentially helpful, but they still choose traditional approaches because they do not want to deal with distractions or efficacy issues. In a nutshell the teachers' views on ICTs in Business Studies instruction show a clear preference for conventional approaches, with ICTs being viewed as supplemental rather than essential to their pedagogy (Shanafelt et al., 2017). While acknowledging the benefits of ICTs for personal growth and keeping up with educational developments, teachers are often wary of over-relying on technology and favor conventional ways for direct classroom instruction.

5.5 Reflection on Methodological Choices

I chose to use semi-structured interviews as part of a qualitative strategy for the current study. My aim to thoroughly investigate teachers' perspectives and experiences with ICT integration

in their teaching practices served as the driving force behind my choice. Because it enables a comprehensive knowledge of participants' viewpoints, qualitative research is especially well-suited to studying complex social phenomena (Creswell, 2013). The purpose of this study was to identify the underlying attitudes, beliefs and potential obstacles that teachers may encounter while implementing ICTs in the classroom. The semi-structured framework allowed for both in-depth topic exploration and conversational guidance around important ICT integration issues. The understanding that attitudes about technology are formed by a variety of contextual elements, including individual experiences, institutional regulations and larger social views, had an impact on the choice of qualitative technique. My goal in interacting with teachers one-on-one was to document the depth of their stories and the particular circumstances that shaped their perspectives. My methodological decision was also heavily influenced by ethical considerations. Interviewing educators necessitates being considerate of their work experiences and the possible consequences of their disclosures. I made sure that participants understood the purpose of the research as well as their rights, which included the ability to withdraw at any moment and confidentiality (Seidman, 2013). This ethical commitment promotes trust and transparency during interviews, which is crucial for studying professional attitudes and practices. I decided to use semi-structured interviews as my methodological option in order to gain a thorough grasp of the varied experiences and beliefs that underpin instructors' attitudes towards ICTs in Business Studies. This method addressed ethical issues that are crucial to educational research while also facilitating the collecting of substantial data (Alemu, 2015). In order to supplement qualitative insights with quantitative data and provide a more comprehensive understanding of teachers' views, future research may take mixed approaches into account.

5.6 Reflection on Theoretical Frameworks

Using the TPACK model, I looked at how teachers see and use ICTs in the classroom. For my qualitative investigation, the TPACK framework which highlights the interaction between technical knowledge, pedagogical knowledge and content knowledge provided a strong basis. I was able to investigate teachers' perspectives on ICTs and the challenges associated with integrating them into the curriculum by using TPACK as a lens. The concept was created by Mishra and Koehler (2006), but additional research such as that conducted by Voogt and Roblin (2012) has shown its applicability in modern educational settings. This concept was especially helpful in examining the complex difficulties that educators have when trying to match their subject-matter knowledge with useful educational techniques and technical resources. By conducting semi-structured interviews, I was able to obtain rich, contextual information on the experiences and attitudes of the teachers. While many participants were

excited about employing ICTs, they also pointed out important obstacles, such as a lack of institutional support and training (Khumalo & Mji, 2014). This is consistent with studies by Tondeur et al. (2017), who highlighted that thorough professional development covering every facet of TPACK is necessary for the successful integration of technology. The qualitative data showed a strong relationship between instructors' readiness to try new teaching techniques and their level of trust in their technological abilities. Positive sentiments regarding ICT integration were more common among those who thought they were technologically skilled. This is in line with Ertmer's (2014) research, which emphasises how teachers' self-efficacy affects the ways in which they adopt new technologies. Using the TPACK framework in my research gave me important insights into how Business Studies instructors feel about ICTs. It highlighted how professional development programs must address the linkage between content knowledge, pedagogy, and technology. This method not only helped me with my study, but it also highlighted how important it is to have systems in place that enable instructors to successfully incorporate ICTs into the classroom.

I also considered the Technology Acceptance Model (TAM), which highlights the importance of perceived ease of use and utility in the acceptance of new technology (Davis 1989). While TPACK gave insight into the intricate interplay of knowledge domains, TAM shed light on the individual perceptions and attitudes that influence instructors' readiness to use ICTs. TAM has been especially useful in understanding why some teachers are hesitant to embrace ICTs, despite their potential benefits. For example, several participants in my study voiced worries about the perceived ease of use of specific technologies, which corresponded to the obstacles outlined in the TAM framework. Teachers' experiences with technological tools that were difficult to use or didn't provide obvious advantages for improving teaching methods may dissuade them from fully embracing ICTs. This is consistent with Tondeur et al.'s (2017) findings, which underline the need for comprehensive professional development programs that cover both the practical and conceptual elements of technology integration.

Furthermore, the perceived utility of ICTs had a significant influence on teachers' attitudes towards technology. Those who perceived the potential for ICTs to increase student engagement and learning outcomes were more inclined to employ them, which is consistent with TAM and TPACK’s findings emphasising the significance of aligning technology with instructional goals. Lastly, by including the TAM framework into my research alongside TPACK, I acquired a more complete knowledge of the elements impacting ICT adoption in the classroom. Both approaches emphasise the necessity of teacher preparedness whether via skills, attitudes, or institutional support as a prerequisite for effective integration. This dual paradigm helped me find the intricate ways in which technical knowledge, pedagogical

knowledge, and attitudes toward technology intersect in educators' decision-making processes.

5.7 Limitations

The subjectivity associated with data collecting and interpretation is one major drawback (De Villiers et al., 2022). Researchers may structure questions differently, engage with participants differently, and evaluate replies differently when they bring their own biases and opinions to the research. Due to the possibility of divergent conclusions being drawn from the same data by several researchers, this subjectivity may compromise the trustworthiness of the findings (Dutilh et al., 2019).

One limitation of this study was the potential influence of my own subjectivity when interpreting teachers' attitudes towards ICT. Since I observed both enthusiastic and reluctant participants, my own experiences and expectations about ICT integration may have unconsciously influenced how I interpreted their responses (De Villiers et al., 2022). While I aimed for neutrality, there is always a risk that certain themes stood out more based on my own perspective. To address this, I used member-checking to ensure my interpretations accurately reflected participants' perspectives. Since the study relied on interviews and classroom observations, my own perspective on ICT integration may have influenced how I interpreted teacher responses (Higgins et al., 2016). Teachers with strong traditional teaching preferences may have appeared more resistant than they truly were. To mitigate this, I used direct quotations and cross-checked interpretations with participants. The limited observation period meant I could only capture ICT use during specific lessons. Some teachers may have integrated ICT on different days or for specific topics, which was not fully reflected in the data (Wasserman & Migdal, 2019). Future studies could extend observation periods for a more comprehensive picture. Some teachers were hesitant to discuss their ICT struggles openly, possibly due to concerns about being judged by colleagues. This may have led to self-censorship, where they presented their ICT use more positively than it actually was. Conducting anonymous surveys in addition to interviews could have encouraged more open responses (Van Scotter & Garg, 2019). While pseudonyms were used, certain responses were highly specific, making it challenging to fully anonymise participants. In cases where teachers described unique ICT challenges, there was a risk that colleagues could guess their identity. To protect anonymity, I focused on aggregated themes rather than individual cases.

5.8 Contributions

This study will add to the body of knowledge by gaining a better understanding of teachers' viewpoints on the integration of Information and Communication Technologies (ICT) in

Business Studies classes. Through an examination of teachers' views and experiences, the study revealed how ICT is seen as both a tool for increasing learner involvement and a catalyst for improving teaching practice. Teachers' perspectives were gathered, bringing light on the benefits and challenges of adopting technology into their classes. The study provided fresh insights into the elements that promote or inhibit the adoption of ICT, providing a more comprehensive knowledge of how technology might be integrated into education.

In addition to studying teachers' perspectives, the study looked at the numerous elements that influence technology use in the classroom. Access to resources, availability of training, and teachers' opinions of the benefits of ICT to learner learning have all been demonstrated to have a key influence in its adoption (King & Boyatt, 2015). Teachers who had proper resources and training were more likely to effectively incorporate ICT into their courses. Furthermore, the perceived benefits of ICT, such as its capacity to improve learner engagement and offer access to current knowledge, encouraged teachers to use technology into their teaching techniques (King & Boyatt, 2015). These characteristics were critical in understanding how teachers negotiate the hurdles of incorporating ICT into their instruction.

The study also identified typical challenges that teachers have when attempting to incorporate ICT into their instruction, such as a lack of infrastructure, insufficient training, and opposition to change. Despite these limitations, the study underlined ICT's beneficial influence, such as greater learner engagement, better access to resources, and the capacity to promote a more participatory learning environment (Akram et al., 2022). This study's findings have significant implications for future policies and programs targeted at promoting ICT integration in education. By demonstrating the benefits and limitations of ICT adoption, the study provides significant insights for establishing focused professional development programs and techniques to assist educators in making more effective use of technology in Business Studies teaching and learning (King & Boyatt, 2015).

Furthermore, the study's findings have significant implications for future research and educational practices. By identifying the important characteristics that drive ICT adoption in Business Studies courses, the study paves the way for further research into how these issues might be effectively handled at various levels of education. Furthermore, the research emphasised the need of policies that not only offer appropriate resources and infrastructure, but also encourage an innovative and adaptable culture among educators (Choek et al., 2017). As schools and educational institutions continue to embrace digital tools, the findings of this study can help guide efforts to create more supportive environments for teachers, ensuring that ICT is more than just a tool for teaching, but also a critical component in transforming learners' learning experiences (Choek et al., 2017).

5.9 Recommendations

The following suggestions on the use of ICT by teachers in their lessons are made based on the research and its discoveries. Computer literacy can be added to the curriculum of schools that do not already offer it as a topic. Given that teachers with bachelor's degrees have studied computer literacy during their undergraduate studies, it may be feasible for schools to implement computer literacy programs. I think that teachers can enable learners to develop computer literacy. Depending on the size of the school, one or two teachers may be sent for a computer literacy course if it is difficult to find someone to teach computer literacy because it is not one of their specialties.

Ongoing professional development must be put in place to stay current with developments in the industry. To teach every teacher how to use ICT for teaching and learning, the Department of Education can host workshops. The Department of Education can provide funds so that educational institutions may buy and keep up the hardware and software required for Business Studies curricula. All schools need to have equal access to these resources. Give teachers financial aid or other incentives to pursue training in ICT technologies and techniques relevant to Business Studies. Since the world is adopting 21st century skills, I recommend that the Department of Basic Education must invest funds in ICT tools more especially in township schools. They must also ensure that teachers are trained in order to successfully use and implement the ICT tools; this will ensure that learners are prepared for the digital world. Every topic requires teachers to give explanations or presentations, and ICT resources like laptops, whiteboards and data projectors may be used for this purpose.

The Department has to make sure that enough projectors and whiteboards are available for use in every classroom in the schools. They must create a comprehensive national plan that outlines objectives, implementation procedures and assessment standards for incorporating ICTs into Business Studies. District directors must enhance internet access in schools, especially in locations with limited resources, to facilitate effective use of online tools and services and further establish feedback channels and routine evaluations to track development, pinpoint problems and make data-driven adjustments.

Future research should focus on how professional development programs might increase teachers' ICT abilities and shift their attitudes towards technology. Researchers might also investigate how school resources, such as access to computers, software and dependable internet, influence teachers' usage of ICT. Tracking teacher views over time may reveal how they change as technology advances. It would also be helpful to understand how learners feel about using ICT in class and how it affects their learning. Comparing how ICT is used in Business Studies to other topics may show obstacles or benefits unique to each field.

Furthermore, research on the effect of national policies, community perspectives and school culture may aid in explaining what drives teachers' attitudes. Finally, action research in which teachers experiment with ICT in the classrooms, may give practical suggestions for improving its use. These areas of research would help us learn how to better support teachers' use of ICT and integrate it into classes. By putting these recommendations into practice, the South African Department of Education may successfully encourage the use of ICTs in Business Studies, improving learner learning and better preparing them for the needs of the contemporary corporate world.

5.10 Final Conclusion

To sum up, this study has shed important light on the views of Business Studies teachers towards the use of ICTs in the classroom. After conducting a thorough examination of the data, the study brought to light the generally favourable opinions that educators have about ICT integration, understanding that it may improve engagement among learners and create more engaging learning environments. It also highlighted the major obstacles that educators must overcome, such as insufficient resources, poor training and problems with infrastructure that prevent instructors from utilising technology effectively. The results highlighted the tenacity and dedication of teachers, who persist in looking for methods to integrate ICTs into their lesson plans despite a lot of existing challenges. Their eagerness to adjust and work together with peers indicates that they really believe that technology may enhance the educational process. In order to create a learner-centered environment that can accommodate the many demands made by learners in the current digital era, perseverance is essential. In the end, this study highlighted the necessity of continual assistance and professional development programs to enable teachers in their endeavours to successfully incorporate ICTs. Educational institutions may foster a more favourable atmosphere for technology use, which will improve teaching strategies and increase learning results, by addressing the barriers found in this study. To ensure that both teachers and learners can succeed in an increasingly digital environment, future research should continue to study the changing landscape of ICT in education, with an emphasis on long-term implications and the efficacy of support systems.

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APPENDIX 1: Interview questions

I would like to begin by thanking you for your willingness to participate. The aim of these questions is to learn more about you as a teacher and your perspectives on your work, and the use of technology in your Business Study lessons. By taking part in this interview, you are providing me with very important information to be able to complete my Masters' studies.

You will stay anonymous and your participation is voluntary.

1. **General questions**
   1.1 What is your age?
   1.2 How many years of teaching experience do you have?
   1.3 Which subjects and grades do you teach currently?
   1.4 How well can you use a computer? Novice/ amateur / competent/ proficient super-user?
   1.5 Which ICTs are available for you to use?
   1.6 Which ICTs are available for your learners to use in your class?
   1.7 What is your opinion of the use of ICTs in this school? Explain why.

2. **Main question**: What are teachers' attitudes towards the use of ICTs in teaching Business Studies?

3. **Sub-question 1**: How do teachers incorporate ICTs in the teaching of Business Studies?
   3.1 Which ICTs are you using in your Business Studies classroom?
   3.2 Why are you using this/ these specific ICTs?
   3.2 How do you ensure that the ICTs are incorporated in your lessons?

4. **Sub-question 2**: How do Business Studies teachers' attitudes influence teaching and learning with ICTs in their subject?
   4.1 What is/are your attitude(s) towards the use of the ICTs in the Business Studies classroom? Does your attitude differ with the use of different ICTs? If so, why?
   4.2 How do you use ICTs to develop yourself and to enhance your Business Studies teaching?
   4.3 How do you perceive the importance of ICTs in enhancing Business Studies teaching and learning?
   4.4 What factors influence your attitude towards the use of the computer in teaching and learning BS?

5. **Sub-question 3:** How easy to use or useful do Business Studies teachers find the use of ICTs?
   5.1 What are your views about the use of ICTs in Business Studies teaching and learning? Is it important to use ICTs in BS? Why or why not?
   5.2 How comfortable do you feel in using ICTs in teaching Business Studies?
   5.3 Do you find it easy to use ICTs in Business Studies? To what extent does your attitude influence your perceived ease of use of ICTs in Business Studies?
   5.4 Do you find it useful to use ICTs in Business Studies? To what extent does your attitude influence your perceived usefulness of ICTs in Business Studies?

6. **Sub-question 4**: What are the external factors (challenges and advantages) that teachers encounter when incorporating ICTs into Business Studies instruction and how does it influence their attitudes?
    - 6.1 What challenges do you encounter regarding the use of ICTs in the BS classroom?
    - 6.2 Why do you perceive these factors as challenges?
    - 6.3 How do these challenges influence your attitude towards the teaching of BS?
    - 6.4 Which existing factors support you in your use of ICTs as a BS teacher?
    - 6.5 Why do you perceive these factors as advantages in teaching BS?
    - 6.6 How do these supporting factors influence your attitude towards the teaching of BS using ICTs?

      If not covered in the abovementioned answers:
    - 6.7 Which resources are available to you in terms of knowledge, skills and technical support?
    - 6.8 What training, if any, have you had concerning ICT use in BS?
    - 6.9 How can the Department of Basic Education and the school management improve on the training of teachers in the use and implementation of ICTs in teaching?
    - 6.10 To what extent do the training and your experience influence your perceived usefulness of ICTs in BS?
    - 6.11 To what extent do the training and your experience influence your perceived ease of use of ICTs in BS?
    - 6.12 What additional knowledge, skills and support do you need to optimally use ICTs for teaching and learning BS?

APPENDIX 2: Observation schedule

Date: Time:

What technology does the teacher use?

How does he/she use it?

Is it integrated into the lesson or used superficially?

Does the technology seem useful/beneficial to reach the lesson outcomes?

Does the teacher use the technology seamlessly or does he/she needs help?

What challenges (if any) does/do the teacher encounter?

How do the learners react to the use of the technology?

Does the way in which the teacher handles the technology match what was said in the interview?

APPENDIX 3: Participants' letter

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Dear Sir/Madam,

Request to participate in an interview and possible class observation for a research project:

Title: Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools

I am Sifiso Mngadi, a Master's degree student at the University of Pretoria under the supervision of Dr. Maryke Mihai. The title of my approved research study is: *"Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools"*.

The aim of the study is to investigate teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools. The data collection for this study will require interviews and classroom observations on how you use ICTs in your Business Studies lessons. The interview will take approximately 30-40 minutes of your time and the possible class observation will last one class period. I have included here for your information a schedule of the interview questions as well as the class observation. I hereby request your permission to participate in the interview and class observation.

All participation is voluntary. No harm or injury will come to you during your participation. Please note that the decision about your participation is completely voluntary and this will not affect your livelihood. Since your participation in the study is voluntary, please note that no participants will receive any monetary awards or any other awards of any kind. None of the results obtained during the interview or class observation will be used for assessment purposes. You may request to leave the interview at any time without any explanation or consequences, or choose not to give consent to participate in the class observation.

All information obtained during the research study will be treated confidentially. My supervisor and I will have access to the data. The names of teachers, principal or school will not be mentioned during any phase of the study. Furthermore, pseudonyms will be used to avoid identification of the teachers and school.

At the end of the study, I will provide you and the school with a copy of the study containing both the findings of the study and recommendations. In addition, I would like to request your permission to use all data, confidentially and anonymously, for further research purposes, as the data sets will become intellectual property of the University of Pretoria. Further research may include secondary data analysis and use of the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

All the information obtained during the research study will be treated confidentially, with not even the University of Pretoria or the Gauteng Department of Education having access to the raw data obtained. At no time will either you as an individual or your school be mentioned by name or indeed be allowed to be identified by any manner or means whatsoever in the study.

Thank you in advance.

Mr. S. Mngadi
Student Researcher
University of Pretoria
u17323208@tuks.co.za
0743113482

Dr. M. Mihai
Supervisor
University of Pretoria
maryke.mihai@up.ac.za
082 430 2928

APPENDIX 4: Principals' letter

Dear Principal,

Request for your school's teachers to participate in an interview and class observation for a research project:

Title: Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools

I am Sifiso Mngadi, a Master's degree student at the University of Pretoria under the supervision of Dr. Maryke Mihai. The title of my approved research study is: *"Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools".*

The aim of the study is to investigate teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools. The data collection for this study will require interviews and classroom observations with three of your teachers on how they use ICTs in their Business Studies lessons. The interview with each teacher will take approximately 30-40 minutes outside of dedicated teaching time. A possible class observation of one class period will be scheduled with the participants after the interviews. I have included here for your information a schedule of interview questions as well as the observation schedule. I hereby request your permission to allow the Business Studies teachers in your school to participate in the interview and / or class observation.

No harm or injury will come to the teachers during the interview or class observation. Please note that the decision for teachers to participate is completely voluntary and this will not affect their livelihood. Since their participation in the study is voluntary, please note that no participants will receive any monetary awards or any other awards of any kind. None of the results obtained during the interview or observation will be used for assessment purposes. The teachers may request to leave the interview at any time without any explanation or consequences or not to give consent to participate in the class observation.

All information obtained during the research study will be treated confidentially. My supervisor and I will have access to the data. The names of teachers, principal or

school will not be mentioned during any phase of the study. Furthermore, pseudonyms will be used to avoid identification of the teachers and school.

At the end of the study, I will provide the school with a copy of the study containing both the findings of the study and recommendations. In addition, I would like to request your permission to use all data, confidentially and anonymously, for further research purposes, as the data sets will become intellectual property of the University of Pretoria. Further research may include secondary data analysis and use of the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

All the information obtained during the research study will be treated confidentially, with not even the University of Pretoria or the Department of Education having access to the raw data obtained from the interviews. At no time will either you as an individual or your school be mentioned by name or indeed be allowed to be identified by any manner or means whatsoever in the study.

Thank you in advance.

Mr. S. Mngadi
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LETTER of CONSENT

SCHOOL PARTICIPATION

VOLUNTARY PARTICIPATION IN THE RESEARCH PROJECT ENTITLED

Teachers' attitudes towards the use of ICTs for teaching Business Studies in Soshanguve secondary schools

I, _____, (Full name) the principal of

_____

Please tick the appropriate block

Give consent ☐

Do not give consent ☐

to allow the teachers in my school to participate in the above-mentioned study introduced and explained to me by Mr. Sifiso Mngadi, an enrolled Master's student at the University of Pretoria.

I further declare that I understand, as explained to me by the researcher, the aim, scope, and purpose of collecting information proposed by the researcher, as well as how the he will attempt to ensure the confidentiality and integrity of the information he collects.

Full name

Signature

Date

School stamp