AN ANALYSIS OF THE IMPACT OF PUBLIC SECONDARY SCHOOL PRINCIPALS' LEADERSHIP STYLE ON TECHNOLOGY INTEGRATION IN THE OSHANA REGION OF NAMIBIA

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ABSTRACT

Technology integration in public secondary schools is a challenge to many Namibian schools. Principals' leadership styles play a key role in changing the way teachers and learners use the internet, integrate technology in education as well as communicate through the internet. It is against this background that the purpose of this study was to analyse the impact of the secondary school principals' leadership styles on technology integration in the Oshana region of Namibia. The research strives to identify the leadership styles that were used by public secondary school principals in the Oshana region. The researcher applied the qualitative research method and the data was collected using an interview guide. This study used 14 public secondary school principals from the population of 24 public secondary schools. The results indicate that different leadership styles were used by the principals depending on the situation's demands, and it has also been found that the applied leadership styles had a significant role to play in the integration of technology in schools. It is important that the MoEAC, schools, principals and teachers take the findings of this study into consideration and implement the strategies that would contribute to the effectiveness of technology integration in schools.

Key words: technology integration, leadership styles, public secondary schools, principals

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LIST OF ABBEVIATIONS AND ACRONYMS

ICT-Information Communication Technology

AI-Artificial Intelligence

4IR-4th Industrial revolution

NBS-Namibia Business School

MoEAC-Ministry of Education, Arts and Culture

UNAM-University of Namibia

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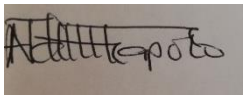
DEDICATION

I dedicate this thesis to my family, friends and everybody who offered a helping hand. A special dedication to the principals who took part in this study as well as to the learners who are still to realise the future via technology integration.

DECLARATIONS

I Frieda Leena Ndeyapo Kapolo, hereby declare that this study is my own work and a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

Frieda L. N. Kapolo  27 April 2022

Name of student **Signature** **Date**

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CHAPTER 1: INTRODUCTION

1.0 INTRODUCTION

As the world makes strides towards the 4th Industrial Revolution (4IR) that involves robotics, automation and Artificial Intelligence (AI), schools are encouraged to use technology to enhance teaching and learning and prepare their learners to work in this advanced digital world (Machado & Chung, 2015). Though the impact of Information and Communications Technology (ICT) to effectively deliver education (Sincar, 2013; Thannimalai and Raman, 2018; Richardson *et al.,* 2019; Urgur and Uğur and Koç 2019) is well understood, schools are yet to harness the full potential of ICT for effective technology integration (Cakir, 2012).

Some of the reasons for the limited uptake is due to lack of adequate training in ICT and an understanding of how technology can be used to deliver education (Cakir, 2012). Also, lack of access to technology (Gemenda & Lee, 2020). These issues are also prevalent in Namibian schools and are further hampered by unrealistic planning (Gervasius, 2020). In addition to planning being a critical aspect of successful technology integration, it is further seen as the responsibility of the school principals to carry out planning and lead technology integration (Afshari *et al.,* 2021; Uğur and Koç 2019).

Studies conducted in Malaysia and the United States have shown that the successful integration of technology in schools was the result of school principals leading the process (Afshari *et al.,* 2012, Laouni, 2020 and Uğur and Koç 2019). While it has been shown that principals lead with an effective technology plan which highlights investment in ICT infrastructure and training and teachers are supported, effective ICT

integration is possible (Uğur and Koç 2019). They further argue that it is the specific leadership style of the school principals that ensures successful ICT integration.

Of the different leadership styles, namely: authoritarian, participative, delegative, transactional and transformational leadership (Gemeda & Lee, 2020) studies show that it is the transformative leadership style that supports innovation and embraces technology in teaching and learning (Cakir, 2012, Gemeda and Lee, 2020 and Uğur and Koç 2019). However, Hellriegel *et al.* (2017) and Zakeer *et al.* (2016) point out that there is no perfect leadership style, the extent and effectiveness of influence depends on choosing the appropriate leadership style required to address the situation.

It is thus argued that a study in ICT integration in secondary schools would not be complete without understanding the leadership styles employed by the school principals and their impact on ICT integration in schools. The purpose of this study was to analyse the leadership styles of school principals and their impact on effective technology integration in secondary schools in the Oshana region. This chapter outlines the background of the study together with the research objectives, significance, limitations and delimitations of the study.

1.1 BACKGROUND OF THE STUDY

Although technology has been shown to facilitate learning and Governments have provided training and infrastructure for technology integration, schools are still lagging behind (Ghavifekr & Rosdy, 2015). Technology integration in education in Africa is affected by limited experience and understanding of how to use the technology effectively to facilitate learning. Other factors negatively impacting technology Integration are lack of trained school leaders in technology integration and

professional development programmes that do not focus on technology integration effectively (Afshari *et al.*, 2012; Henriksen *et al.,* 2016 and Kelly, 2015).

While the above-mentioned aspects are considered to play a critical role in technology integration, this study argues that any initiative in technology integration which does not focus on the school leaders will result in moderately successful technology integration efforts (Claro *et al.* 2017). This is because successful technology integration starts with a clear vision and goals and a plan to achieve that vision and that mandate lies with the leadership (Khajeh 2018). Furthermore, there are limited studies on the impact of leadership styles of school principals on technology integration (Gençera and Samur, 2016). Thus, this study focussed on the leadership style of secondary school principals in achieving successful technology integration in schools.

In the Oshana region, there are 24 public secondary schools and they accommodate 13876 learners (Ministry of Education, Arts and Culture, 2020). These schools are led by principals who are appointed by the Government of the Republic of Namibia via the Office of the Prime Minister (Public Service Act 13, of 1995).

According to the Education Act 16 of 2001, school principals are teachers who head the schools and are mandated by the Ministry of Education, Arts and Culture (MoEAC) to manage the schools satisfactorily, in compliance with applicable legislation, regulations and personnel administration measures as prescribed. They are accountable to promote the education of the learners in a proper manner and in accordance with approved policies, and to manage the school in terms of implementation and evaluation of teaching programmes, teaching, supervision, administration, service development, inspection and guidance of teachers at the school.

These duties are expected to be carried in an effective learning environment by leading and managing the staff, interacting with stakeholders and promoting a positive school climate amongst others. The requirements for one to be a principal are 3 to 4-years tertiary teaching qualification at NQF level 6, plus 7 years teaching experience.

The Education Act 16 of 2001 further stipulates that the MoEAC is responsible for all the operations of the secondary schools. Also, principals operate according to the directives and policies of the MoEAC which are provided through the Executive Directors and enforced via the Regional Education Directors.

The same office ensures that it assists principals and teachers to improve the quality of teaching and learning at their schools. The office further serves as the information centre for all schools in the region by ensuring that all the necessary support in terms of ICT connectivity in all schools is provided. The office provides the support system for the schools through their circuit officers who help the school principals to implement educational policies and manage the schools accordingly. The immediate supervisors of the school principals are the circuit inspectors; they are the ones who assess the school principals if they are carrying out their duties effectively as per the ministry's guidelines. Circuit inspectors are liaison officers between the offices of the Directors and the schools and ensure that professional development of school principals and teachers is conducted at the right time (The Education act 16 2001).

From the discussions thus far, it is clear that a heavy responsibility lies on the shoulders of the principals and for them to be able lead effectively and efficiently, they should use a specific leadership style or a combination of leadership styles. A leadership style is "viewed as a combination of different characteristics, traits and behaviours that are used by leaders for interacting with their subordinates" (Hasan and Khajeh, 2018 p. 2).

The authors, Gemeda and Lee (2020) outline five different leadership styles namely: authoritarian, participative, delegative, Laissez-Faire, transactional and transformational leadership. Those who use the authoritarian leadership style tend to "retain as much power and decision-making authority as possible" (Khan *et al.* 2015, p. 87) whereas those who prefer the laissez-faire leadership style provide "little or no direction and give employees as much freedom as possible" (Khan, Khan, Qureshi, Ismail, Rauf, Latif and Tahir, 2015 p. 89).

Those who use the democratic leadership style "encourage employees to be a part of the decision making" (Khan *et al.,* 2015, p. 88) and the leadership style that focuses on "contract agreement as the main motivator to lead" (Zakeer *et al.*, 2016, p.3) is considered to be a transactional leadership style. The transformational leadership style is used by those who tend to "inspire and empower the followers with the vision by motivating them to accept and achieve complex goals that seem unachievable" (Zakeer *et al.,* 2016, p. 4).

While some individuals tend to prefer and use one leadership style over the others, others may use the leadership style that best suits the situation. This is called situational leadership (Khan *et al.,* 2015). The other argument put forward for the use of situational leadership is because there is no perfect leadership style, the extent and effectiveness of influence depends on choosing the appropriate leadership style required to address the situation (Hellriegel *et al.* 2017 & Zakeer *et al.* 2016).

1.2 PROBLEM STATEMENT

While the effective integration of technology in education in schools is considered the responsibility of the principal, the impact their leadership style plays in driving technology integration in schools is an under explored area in research (Afshari *et al.,* 2013, Ghavifekr and Rosdy, 2015, Keane *et al.,* 2020; Raman & Don 2014).

Studies have shown that school principals are the most influential individuals when it comes to technology integration and implementation, that is why they should play a leadership role to ensure effective technology integration in their institutions (Cakir, 2012; Pekin-Jacobs, 2015; Uğur & Koç , 2019).

It has been observed that in Namibia studies on ICT integration have focused on tertiary institutions (Isaacs *et al.,* 2018; Rukonda & Nyamapanda, 2020) and others have dealt with learners and teachers' perceptions on ICT integration and mobile learning (Osakwe *et al.,* 2017). There are limited studies in Namibia on the role principals play in effective technology integration in secondary schools.

This study thus takes the position that given the critical role principals play in ensuring the success of teaching and learning, without acquiring an understanding of the leadership styles of the public secondary schools' principals and their impact on effective ICT integration in secondary schools, the MoEAC may not be able to fully understand the challenges to effective technology integration and as such may be unable to harness the full potential of ICT in education. Furthermore, this study would

address the literature gap related to the impact of school principals' leadership style on effective technology integration.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to analyse the impact of the secondary school principals' leadership style on technology integration in the Oshana region. The following three sub-objectives that allowed the research to achieve the main objective were to:

1. Identify the leadership styles used by the public secondary school principals in the Oshana region.
2. Determine the impact of the Oshana public secondary school principals' leadership style on technology integration in schools.
3. Examine strategies that would encourage the change to the leadership style that supports effective technology integration in public secondary schools in the Oshana region.

1.4. SIGNIFICANCE OF THE STUDY

The findings of this study may assist the MoEAC, Oshana region directorate and principals in understanding the challenges of effective integration and implementation of technology in secondary schools in the Oshana region. The findings will further allow the public secondary schools principals, the MOEAC and the Oshana region directorate to apply the proposed strategies which could facilitate the effective integration of technology in the schools. Last, but, not least, the findings of this study should add to the body of knowledge base of technology integration in schools from the perspective of secondary school principals.

1.5 LIMITATION OF THE STUDY

Only 14 principals from the 24 public secondary schools in the Oshana region were found to be willing to participate in this study. An attempt was made to opt for the willing principals as some principals were unavailable and unwilling to participate in the study.

1.6 DELIMITATIONS OF THE STUDY

The study was only focused on collecting data about the impact of public schools' principals' leadership style on the effective implementation and management of technology integration from public secondary schools' principals in the Oshana region.

1.7 DEFINITIONS

Below are a number of terms that have been used throughout the study.

School: A school is defined to be "an establishment or a place or part of an establishment or place where basic education is provided" (Namibian Government Gazette, 2020, p. 9).

Secondary schools: A secondary school is "a school or part of a school in which basic education from grade eight to the last grade of secondary education is provided" (Namibian Government Gazette, 2020, p. 10).

Learner: A learner is defined as "a person who is registered and receiving basic education or a course of study in terms of act 3 of 2020" (Namibian Government Gazette, 2020, p. 8).

Teacher: A teacher is considered to be "a staff member who has qualifications to teach others in formal education and whose occupation is teaching and includes a staff member who does not have a teaching qualification but has other abilities and qualifications that are relevant to teaching" (Namibian Government Gazette, 2020, p. 10).

Principal: A principal is "a teacher who holds the post as the head of a school and includes an acting principal" (Namibian Government Gazette, 2020, p. 9).

Technology: Technology can be defined to be "the knowledge, tools, techniques and actions used to transform ideas, information and materials into finished goods and services. (Hellriegel *et al.*, 2017, p. 147).

Information Communication Technology (ICT): ICT "refers to the technologies including computers, telecommunication and audio-visual systems that enable the collection, processing, transportation and delivery of data, information and communications services between users (Ministry of Information and Communication Technology (MI and CT) 2020).

Training: Training is the "process of learning the skills that you need to do a job" (Hornby, 2010 p.1586)

Technology integration: Technology integration is considered to be the application of computer-based communication and the use of learning technologies in schools which are incorporated into daily classrooms lessons (Uğur and Koç, 2019)

Leadership: Leadership is defined as an ability that "involves influencing others to act willingly towards the attainment of a goal" (Hellriegel *et al.*, 2017, p. 339).

Leadership style: According to Hasan and Khajeh (2018 p. 2) "leadership style is viewed as a combination of different characteristics, traits and behaviours that are used by leaders for interacting with their subordinates."

Authoritarian leadership style: This is a leadership style in which the "manager retains as much power and decision-making authority as possible" (Khan *et al.* 2015 P. 87)

Democratic leadership style: In this leadership style "employees are encouraged to be a part of the decision making" (Khan, Khan, Qureshi, Ismail, Rauf, Latif and Tahir 2015 P. 88)

Laissez-Faire leadership style: This is considered to be a leadership style in which the "manager provides little or no direction and gives employees as much freedom as possible" (Khan *et al.,* 2015, p. 89)

Transactional leadership style: In this leadership style the focus is on "the contract agreement as the main motivator to lead" (Zakeer *et al.,* 2016, p.3).

Transformational leadership style: This is a leadership style that "inspires and empowers the followers with a vision through motivating them to accept and achieve complex goals that seem unachievable" (Zakeer *et al.,* 2016, p. 4).

Situational leadership style: According to (Khan *et al.,* 2015, p. 90) situational leadership styles is the style where decisions are taken based on the requirements of a situation.

1.8 OUTLINE OF THE STUDY

This study aims at analysing the impact of secondary school principals' leadership style on technology integration in the Oshana Region. The study is arranged as follows:

Chapter One presents the introduction and the background of the study, followed by the problem statement, research objectives and significance of the study. It also provides the limitations and delimitation of the study as well as the definition of terms and the outline of the study.

Chapter Two introduces a literature review. It deals with education technology and leadership styles. The chapter further discusses the technology leadership and technology integration in secondary schools. Additionally, ICT in Namibian schools and school principals' leadership are also discussed.

Chapter Three explains the research methods which were used in order to identify the leadership styles that are applied by the secondary schools' principals. Details of research design, population and sample of the study were explained. The chapter further provides the information of the instruments which were used for data collection as well as the procedures followed when the study was conducted. Furthermore, explanation of how the data was analysed and the research ethics considered are also provided.

Chapter Four presents and discusses the results of the leadership styles used by the secondary schools' principals and their impacts on the technology integration in their schools.

Chapter Five focuses on conclusion and recommendation in line with the objectives of the study.

1.9 SUMMARY

Though literature has shown the potential technology has to impact education positively, Namibia is yet to harness its full potential in schools. While there are many factors that impact the successful integration, one of the critical and most overlooked factors is the leadership style of principals and its impact on technology integration. The aim of this study was to analyse the impact that leadership style has on the successful integration of technology in selected public secondary schools in the Oshana region.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This section focuses on the key literature that addresses the research objectives and discusses the issues that schools worldwide and especially in Africa face in achieving effective technology integration.

2.2 LEADERSHIP STYLES AND THEIR IMPACT ON TECHNOLOGY INTEGRATION

This section focuses on five different leadership styles namely: authoritarian, participative, delegative, transactional and transformational leadership. The section will further discuss the strengths and weaknesses of each style and the impact of each style on technology integration. In addition to the five leadership styles, the situational leadership style will also be discussed in relation to its effectiveness for technology integration.

2.2.1 Authoritarian leadership style

Hellriegel *et al.* (2017) defines people with this leadership style as those who prefer to control decision making and are unlikely to take inputs from the team members as they depend on their own ideas, experiences and judgement. Khajeh (2018) adds to this definition by stating that such leaders affirm complete control over subordinates to work according to their instructions.

In this style, errors are reduced and time that is spent on crucial decision making is lessened because the leader can decide without consulting the subordinates (Khajeh, 2018). This style is effective if the leader is knowledgeable and works with

subordinates who are also knowledgeable (Afshari *et al.,* 2012; Ghamrawi 2012; Kelly, 2015; Henriksen *et al.,* 2016). Another strength of this style according to the authors is the level of discipline and sense of security this leadership style brings to the employees in an organisation.

However, since there is limited input from the subordinates, good ideas and creativity in an organisation will be hampered (Afshari *et al.,* 2012; Ghamrawi 2012; Henriksen *et al.,* 2016; Kelly, 2015). The authors also note that subordinates who have leaders with the authoritarian style may lack motivation and job satisfaction and as they may develop fear of failure and do work for the sake of compliance.

In the case of technology integration, Ghamrawi (2012) states that the principals who use the authoritarian style tend to retain full control and authority to set the technology vision alone and may use their power to implement the vision with little input from the teachers and the entire school community. The success of this implementation would according to the author depend on the knowledge and expertise of the principal and the implementation would be done according to the instructions of the principal alone.

2.2.2 Participative/democratic leadership style

This type of leadership according to Hellriegel *et al.* (2017) focuses on involving all the subordinates in decision making and as such the subordinates feel like they are valuable to the organisation. Organisations led with this style may note an increase in productivity, job satisfaction, high morale of staff, teamwork and reduction of costs with high output in quality of work (Hellriegel *et al.*2017; Khan *et al.* 2015). Since the team is engaged and trusted, creativity and motivation levels are high and that can lead to enhanced productivity in the organisation (Khan *et al.* 2015).

However, the effectiveness of this style depends on the expertise of the staff members (Khan *et al.*,2015). Furthermore, the involvement of everyone can slow down the decision-making process in the organisation and such affects the timely implementation of decisions (Khajeh, 2018).

Ghamrawi (2012) notes that principals who use the democratic leadership style involves all the teachers in the setting of technology integration vision. The author further maintains that by the principals providing the teachers with the opportunity to partake and express their views the quality work and productivity is enhanced. According to the author, principals who apply this leadership style are directly involved in the process of achieving the vision of technology integration as a coach rather than a dictator.

2.2.3 Delegative/Laissez-faire leadership style

According to Hellriegel *et al.* (2017) the leaders who use this style of leadership allow others to make decisions. This type of leadership according to the authors is successful only when the followers are competent and are held responsible for their actions. Leaders applying this style are more concerned with organisational policies and they influence subordinates to follow them (Khajeh, 2018).

This leadership style tends to isolate leaders from their responsibilities and provide too much freedom to their subordinates (Khan *et al.*,2015). This style can also according to the authors lead to lack of cooperation, lack of effort from inexperienced staff members, misuse of rules and lack of respect for the leader. Furthermore, the authors also maintain that this style can decrease the development and motivation of subordinates by leaving them in their comfort zones with their mistakes which in turn would lead to lower productivity in the organisation.

Principals who use this leadership style will leave the planning and implementation of technology integration in the hands of their staff members with little or no guidance and involvement (Raman *et al.*, 2014; Ghamrawi, 2012 & Gemeda & Lee 2020). If the teachers are not knowledgeable and competent in technology integration, then the planning and implementation may fail due to the lack of guidance, direction and support from their principal (Keane *et al.,* 2020).

2.2.4 Transactional/give and take leadership style

According to Zakeer *et al*. (2016) transactional leaders focus on contract agreement as the main motivator to lead. According to the authors, such leaders place rewards on the table, explain what the followers are expected to do in order to perform and appreciate good performance. This leadership style according to the authors engages followers in a mutual dependence relationship whereby both contributions are acknowledged and rewarded.

Furthermore, in this style, the leader is held accountable for the overall performance and this style promotes high levels of motivation and productivity by creating and maintaining a good environment for best performance (Khajeh, 2018).

This style is not considered to be effective for all situations and contexts (Khajeh, 2018). Furthermore, according to the author, the "give and take" motto can in some cases decrease innovation and creativity in the subordinates and thereby affect productivity in an organisation.

According to Zakeer *et al.* (2016) this leadership style works effectively in technology-intensive environment where situations demand high precisions, technical expertise and time constraints. This style according to the authors hardly works effectively in

situations where teachers are influenced through motivation or have their emotions, beliefs and values considered for technology integration.

2.2.5 Transformational leadership style

Zakeer *et al.* (2016) identifies leaders who apply this leadership style as people who are able to inspire, encourage and empower others to follow them. They according to the authors display integrity, honour and justice when dealing with people and influence change in attitudes, beliefs and goals.

School leaders who use this style tend to use intellectual stimulation and individualised consideration to create a significant positive relationship with employees and innovative work behaviour (Gemeda & Lee, 2020). They are also known to drive change by being open, communicating clearly and engaging others in the learning process (Cakir, 2012). They drive productivity and innovation by focusing on training and developing others, meeting the needs of their subordinates and empowering them to achieve the set targets and goals (Ghamrawi, 2012; Zakeer *et al.*, 2016).

While this style can be effective in driving innovation and change such as technology integration (Hellriegel *et al.*, 2017; Gemeda and Lee, 2020; Cakir, 2012 and Uğur and Koç, 2019) it is not effective in all contexts (Ghamrawi, 2012; Zakeer *et al.*, 2016).

2.2.6 Situational leadership style

Different situations may call for a different leadership styles and an effective leader will need to be flexible in their approaches. Situational leadership style is the style where decisions are taken based on the requirements of a situation (Khan *et al.*, 2015, p. 90).

When leaders use situational leadership as a leadership styles, they tend to be more effective in achieving the goals of their organisation as allows the leaders to give appropriate guidance and support and overcome problems by handling problems quickly and innovatively (Ghazzawi *et al.*, 2017, Khan *et al.*, 2015 and Shaikh, and Shaikh, 2019). The weakness of this style according to the authors is the dependence on the leader's ability to assess and adjust their style to the requirements of the situations.

In terms of technology integration in schools, situational leadership style can be quite effective as different situations call for a different leadership style (Hartini, 2019).

2.3 STRATEGIES THAT SUPPORT PRINCIPALS TO IMPLEMENT TECHNOLOGY INTEGRATION EFFECTIVELY

Having a vision and plan which depends on a specific leadership style alone is not enough to implement technology integration effectively. Teachers and principals need to be trained and supported, they also need to have the right ICT infrastructure and equipment and technical support. This section discusses the strategies that when applied together with the right leadership style for the context can ensure the effective implementation of technology integration in educational institutions.

2.3.1 Training in technology integration and implementation

According to Akcil *et al.* (2021) technology integration in teaching and learning process is a multidimensional and complex process that involves school management, technological devices, teachers, learners, educational programmes and a sustainable and updated teaching learning process.

Furthermore, one of the challenges with technology integration lies with the lack of adequate training and understanding of how computers can be used to deliver education (Cakir, 2012 and Ghavifekr *et al.,* 2015). In Namibia, the use of computers in teaching and learning in the classroom is not effective and schools that have computers use them mainly for administration purposes instead of teaching and learning (Gervasius, 2020).

Furthermore, schools with limited or no technology integration are usually led by principals who lack proper training in ICT and lack regular staff development in terms of ICT after their first degree at Universities (Afshari *et al.,* 2012; Osman *et al.,* 2018; Uğur and Koç,2019).

A school principal would need to be knowledgeable (Chang, 2012) and skilful (Claro *et al.,* 2017) for technology integration to be effective in teaching and learning processes. They should also make sure teachers are provided with training on ICT to effectively use it in the classroom (Claro *et al.* 2017). This type of training can take the form of formal education and continuing professional development training (Raman *et al.,* 2014).

2.3.2 Investment in ICT infrastructure and equipment in teaching and learning

It is further argued that in addition to training to use technology effectively in a classroom, an investment in ICT for the school and teacher support (Ghavifekr and Rosdy, 2015; Laouni, 2020; Raman, 2019) are critical for effective technology integration. School leaders should invest in the necessary ICT infrastructure to achieve the school's technology plan (Raman *et al.,* 2014).

According to the U.S. Department of Education (2017) school leaders should own the acquisition and maintenance of the ICT infrastructure by looking for support and donations to fund access to fast and stable connectivity and learning technologies.

2.3.3 Technology integration vision and plan

The vision and strategic plan are key to successful technology integration. According to Khajeh (2018) successful school leaders have a clear vision and plan for technology integration and share that with the staff members and involve them in the implementation of the plan with adequate support. According to Machado & Chung (2015), school principals should develop a long-term technology plan with a vision and goals to be achieved by the school at large and they should place the value of technology integration in the classroom. The authors added that school leaders and teachers should work on the common goal of preparing the youth for the future. Uğur and Koç (2019) concurred that principals should have a mission and vision for their technology leadership strategies to ensure up-to-date technology integration and advanced operations in schools. And these according to the authors will enable learners to acquire skills that is necessary for their careers and jobs in the digital world.

2.3.4 Support for teachers to implement the technology vision and plan

In addition to training to use technology effectively in the classroom and allowing teachers to give input to the school's technology vision and plan, when teachers feel supported by their principals, they tend to achieve the technology vision and plan for their school effectively (Gemeda & Lee, 2020; Khajeh, 2018).

2.4 SUMMARY

The chapter discussed the leadership styles in relation to their effectiveness in achieving the goals of an organisation and technology integration in educational institutions. The chapter also discussed the various strategies that can be used to support principals in becoming technology leaders. These strategies focus on developing the knowledge and skills to use technology effectively for education, investment in ICT infrastructure and equipment, having a technology vision and plan, and supporting teachers to achieve the vision and plan. In the next chapter the research design, methodology and methods used in this study will be discussed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research design, methodology and methods which were used to identify the leadership styles that are applied by the secondary school principals in the Oshana region. It also presents the methods used to understand the impact of the school principals' leadership styles on technology integration with a view to proposing strategies that encourage principals to effectively integrate technology. This chapter also discusses the population of the study, sampling strategy, research instruments, data collection procedures and research ethics.

3.2 RESEARCH DESIGN

A qualitative approach was employed in this study based on the need to achieve the research objectives from the perspective of the principals. Qualitative studies explore and seek to understand social or human problems from the perspective of the people who are experiencing those problems, (Creswell, 2018 & Saunders *et al.,* 2016).

The specific research design that was used in this study is a case study. Yin (1994) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident…[and] relies on multiple sources of evidence" (p.13). The case in this study is the leadership style of secondary schools' principals in the Oshana region and the impact the style has on technology integration in schools.

It is argued that by utilising a case study design which emphasises the context in which the phenomenon is studied and the perspective of the actor who is the subject of the study, the researcher is able to obtain an in-depth understanding of the leadership style used by the school principals and its impact on the effectiveness of technology integration in their schools.

3.3 POPULATION

The population of this study comprised of a total number of 24 existing public secondary school principals in the Oshana Region (Ministry of Education ,2020).

3.4 SAMPLING METHODS

Purposive sampling was used in this study to provide in-depth and detailed information regarding the impact of the leadership style of the public secondary schools' principals in effective technology integration. According to Gay *et al.* (2012) purposive sampling refers to the process that allows for the selection of a sample which is believed to be the representative of a given population. Out of the 24 secondary schools in the region, only 14 secondary school principals were willing to be part of the study as some principals withdraw from taking part in the study. This did not hinder the study because according to Saunders et al.,(2016), qualitative research methods do not necessarily have large sample due to the fact that in-depth understanding of phenomenon is of high priority, hence smaller population sizes are acceptable.

3.5 RESEARCH INSTRUMENT

According to Creswell (2018) semi-structured interview guides are an effective tool used in qualitative research to study the research problem from the perspective of the participants. The interview guide (see Appendix E) was used to collect data from the 14 secondary school principals.

3.6 DATA COLLECTION PROCEDURES

The researcher consulted the participants and was provided with all the information relating to the study using a participant information sheet (see Appendix C) and consent form (see Appendix D). In the participant information sheet (see Appendix C), participants were informed of their right to withdraw from the study without any consequences administered to them. Furthermore, the participants were assured of the anonymity and confidentiality procedures that would be followed when presenting data e.g. usage of codes to identify the different participants instead of their names or schools.

After obtaining their written consent, the interviews were conducted. Participants were given the opportunity to answer the interview questions without interruptions. Follow-up questions were asked to gain clarity on the responses. After the interview, participants were thanked for availing themselves for the interview and for their time.

3.7 DATA ANALYSIS

The data collected from the interviews was analysed through thematic analysis as it is an effective technique in analysing qualitative data and helps the researcher uncover and understand the complexities of the data (Creswell, 2014).

In line with the thematic analysis process, the following steps were taken. Data was typed and the transcripts were read a few times to ensure that they had been correctly captured and understood. In the next step, preliminary codes were assigned to all the transcripts to describe the content. Upon completion of assigning codes, the different transcripts were scanned for patterns and themes. The themes were defined and used to write the findings in line with the identified leadership styles of the principals to achieve the objectives of the study.

3.8 RESEARCH'S ETHICAL CONSIDERATION

All the procedures were followed by the researcher to get permission from the relevant authorities. The study commenced upon obtaining ethical clearance from the Namibia Business School (NBS) (see Appendix A) at the University of Namibia (UNAM) and permission from the Oshana Regional Council via the Director of the Oshana Region for Education to conduct the study, see (Appendix B). Participants were provided with participant Information Sheet that specifically stated that they are free to withdraw from taking part in the study any time without providing any reason, see (Appendix C). Consent forms (Appendix D) were also provided to the participants before any data was collected. The privacy of the participants was protected with assigned codes and no actual names were used to identify the different transcripts and verbatim quotes used in the study. All hard copies of data and notes are secured under lock and key and

will be destroyed after five years. All electronic data is protected through the use of passwords only known by the researcher.

3.9 SUMMARY

To achieve the objectives of this study, a qualitative research method and a case study research design were employed. Out of the 24 secondary schools in the Oshana region, a purposive sampling technique was used for the study. 14 secondary school principals provided consent to participate in this study. Semi-structured interviews were used to collect data after obtaining permission from the NBS and the Oshana Regional Council and participants. The identity of the participants was protected through the use of codes and all the interview recordings and transcripts are kept secure and accessible only to the researcher. In the next chapter, the data analysis approach used in this study and the findings of the study will be discussed.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

This chapter presents the data analysis process followed in the study together with the results and discussions of the study. The study aimed at exploring the impact of public secondary school principals' leadership styles on technology integration in their schools. As discussed earlier in chapter three, from a population of 24 public secondary schools, 14 public secondary school principals were interviewed.

4.2 RESEARCH OBJECTIVES

The main objective of this study was to analyse the impact of the secondary school principals' leadership style on technology integration in the Oshana region. The following three sub-objectives guided the study:

1. To identify the leadership styles used by the public secondary schools' principals in the Oshana region
2. To determine the impact of the Oshana public secondary school principals' leadership style on technology integration in schools
3. To examine strategies that would encourage the change to the leadership style that supports effective technology integration in public secondary schools in the Oshana region

4.3 FINDINGS OF THE STUDY

The findings of the study are presented in the order of the questions asked in the interview and discussed under the identified leadership styles to clearly show the impact the different styles have in the implementation of technology integration in secondary schools in the Oshana region. Each participant in this study was assigned a code name from P1 to P14.

4.3.1 Demographic data of respondents

4.3.1.1 Gender and age of principals

The gender and age demographics are captured in Figure 4.1. Out of the 14 principals who took part in the study, eight of the principals fell in the age category of 41-50 with seven males and one female. Four principals were within the age category of 31-40 of which two were male and two were female. Two male principals were in the 51 and more category while no one was in the age category of 20-30.

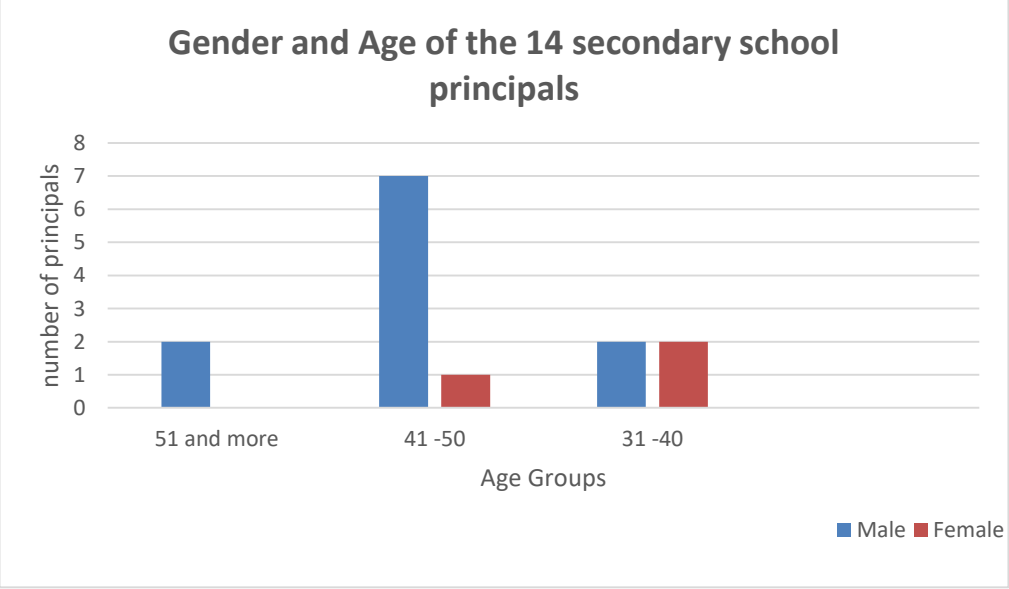

Figure 4.1: Demographics of principals according to gender and age

4.3.1.2 Position of principals

Figure 4.2 presents the demographics of the type of position of the 14 principals who took part in the study. In the acting position, there were three principals of which one was a female and the other two males. 11 of the respondents held the position of a principal. Out of the 11, two were female and nine were male.

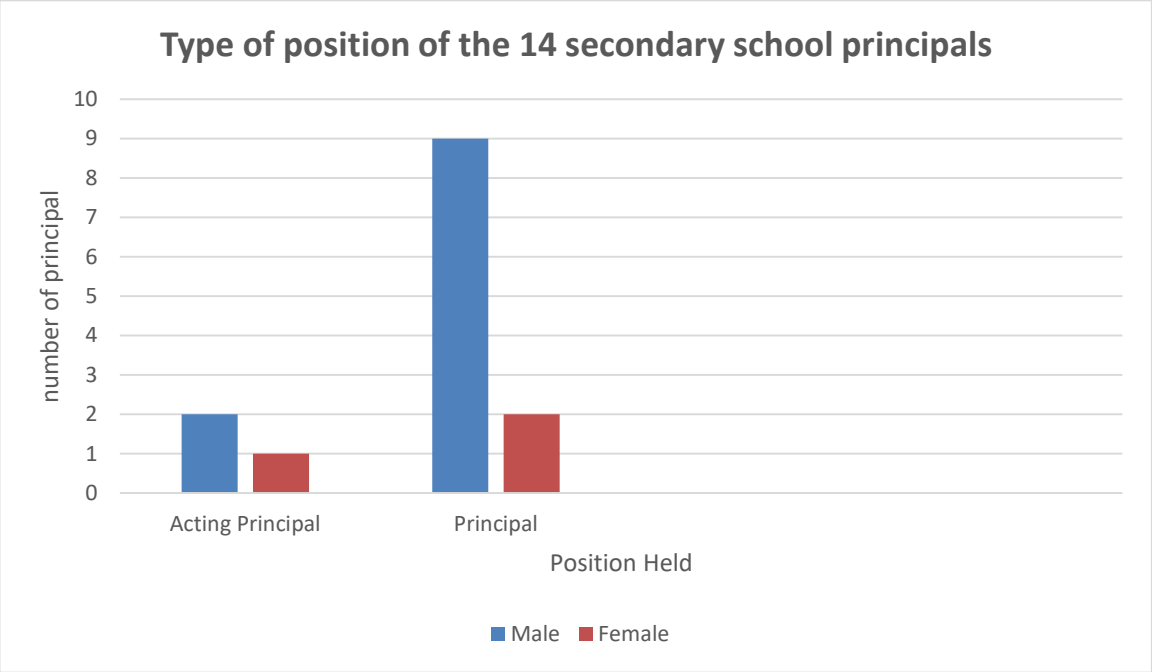

Figure 4.2: Demographics of principals according to position

4.3.1.3 Experience of principals

In figure 4.3, the demographics of the 14 principals in terms of years of experience is presented. Out of the 14 principals, one male principal fell in th range of 1 year and less years of experience while 4 principals were in the category of 2-5 years of experience of which one was female and three were male.

Four principals were found in the category of 6-10 years of experience of which one was female and three were male. Five principals had more than 10 years of experience of which one was a female and the other four were male.

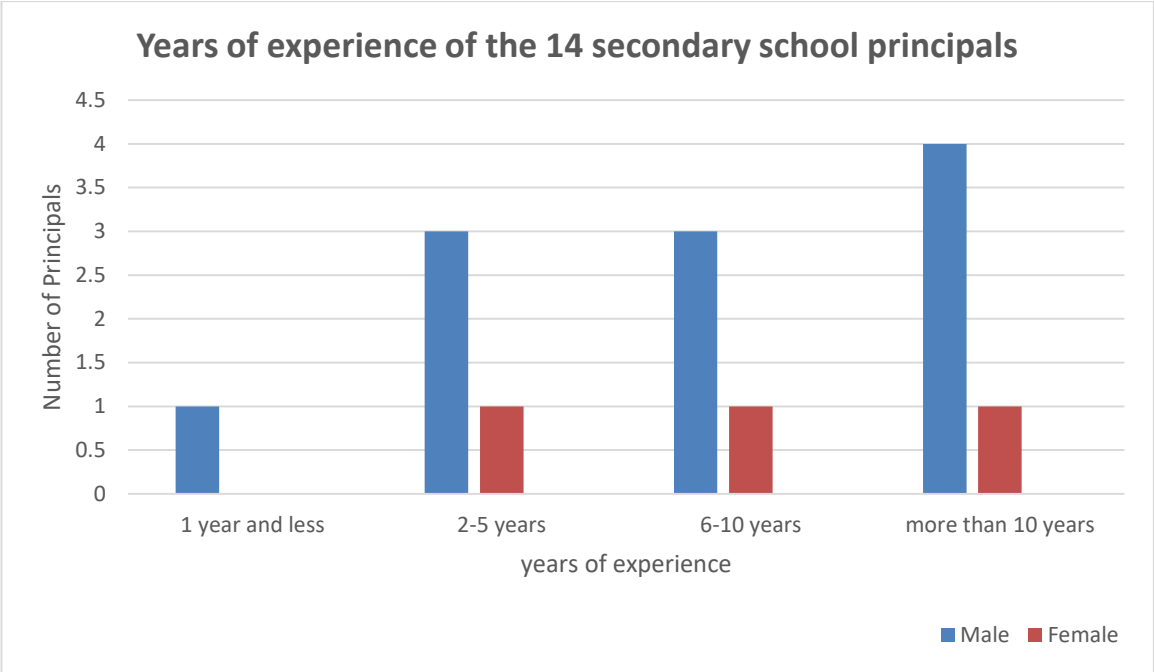

Figure 4.3: Demographics of principals according to years of experience

4.3.2. Effectiveness of the principals according to their leadership style

This section presents the leadership styles of the principals at their schools and how their leadership styles impacted their effectiveness as principals at their own schools.

4.3.2.1 Description of principal's own leadership style

Principals were asked to describe their leadership styles. The leadership styles identified in this study were situational leadership style followed by democratic leadership style and then the autocratic leadership style.

1. **Situational leadership style:** Out of the 14 principals, nine of them were found to use the situational leadership styles. According to Hartini (2019) principals who use the situational leadership style tend to apply different leadership styles because they believe one style alone is not suitable to address every situation.

The quotes from the principals outline the reason for using situational leadership style along with the styles they tend to favour, namely: democratic, autocratic and laissez-faire.

> *I apply all types of leadership styles on specific occasions when it is appropriate, but I believe democratic leadership style works better as I am considerate of others' ideas* **(P2)**

> *I apply democratic leadership style to allow subordinates to participate and autocratic leadership style when assigning duties* **(P4)**

> *The situation on the ground demands the appropriate leadership that can be applied, otherwise I use all the leadership styles* **(P6)**

> *I prefer Laissez-Faire leadership style because it lets subordinates do what they can do best on their own, but on the other hand I believe in democratic leadership style as it can let subordinates express their ideas* **(P7)**

> *I apply democratic leadership when necessary, taking participants' views, but I also apply an autocratic leadership style more specially when I want the subordinate to act quickly and accordingly, because sometimes they take democratic leadership for granted. Apart from that a situational leadership responds to the situation at hand.* **(P8)**

> *I apply different leadership styles such as Democratic, Autocratic, Laissez-Faire, depending on what the situation on the grounds calls for* **(P9)**

I employ different leadership styles that respond to the situation on the ground, and I also apply Autocratic leadership style for the benefit of the organisation **(P10)**

I apply democratic leadership for teachers to participate in the process and share experiences, but I also apply strict leadership when subordinates do not want to comply or do their duties **(P12)**

I apply and consider the leadership style that is applicable or responding to the situation **(P13)**

2. **Democratic leadership style:** The second most common leadership style consistently used was the democratic leadership style. This style was used by four principals. According to Hellriegel *et al.* (2017) democratic leadership style involves all the followers in decision making thereby making the subordinates feel like they belong to the organisation.

The following quotes from the principals display the characteristics evident in a democratic leadership style which are involvement of staff members in the decision-making process which makes them feel empowered to execute decisions, having an open-door policy to allow teachers to air their concerns and ideas which in turn boosts the morale of the staff and delegation of duties:

I lead and others follow, I make sure I empower everyone by involving them in decision making (**P1**)

I apply democratic leadership style because my motto is an open-door policy and I believe in delegation of duties to make people own the school and to be productive **(P3)**

Believed it made the school looked good than before as I share ideas and gave subordinates chance to participate freely, and they are very appreciative. I give equal opportunities to my subordinates to express their ideas and to share experiences because I believe in an open-door policy **(P5)**

Democratic leadership works better for me as I always assign duties to the staff members **(P14)**

3. **Autocratic leadership style:** Only one principal was found to use the autocratic leadership style consistently. Autocratic leadership refers to "a leadership style in which the manager retains as much power and decision-making authority as possible" (Khan *et al.,* 2015, p. 89). In this leadership style, leaders control the decision-making process and are unlikely to take inputs from the team members as they depend on their own ideas, experiences and judgement (Hellriegel *et al.,*2017). The above-mentioned characteristics are found in the following verbatim quote:

   I lead and manage the school according to the government policy and I am responsible for critical decision making **(P11)**

4.3.2.2 Effectiveness of the leadership style of the principals

The effectiveness of the leadership style of the principals will be discussed under their leadership style to highlight similarities and differences on the impact of leadership styles on effective delivery of their duties.

1. **Situational leadership style:** Those who applied the situational leadership style found that their flexibility in using different styles as the situation dictated allowed them to be effective. The verbatim quotes speak to results of the

application of autocratic, democratic and laissez-faire styles as the situation demanded namely motivation as tasks were executed effectively, positive team spirit, inclusivity in the decision-making process, sharing of ideas, resolution of problems without external involvement

> *Subordinates were motivated and carried out their duties as expected* **(P2)**

> C*ontrol delegated tasks to ensure they are done on time. Made the team positive and appreciative that their voices are heard as they were involved in discussions and decision-making process* **(P4)**

> *Made the improvement at school observable as there is team work at school and sharing of ideas.* A*ll situations are addressed depending to the appropriate leadership style* **(P6)**

> E*nables me to delegate and direct only when necessary and solve problems amicably. Solve issues internally without the involvement of the circuits or regions* **(P7)**

> *Democratic leadership was applied for normal course of events, but for urgent and critical decisions I applied Autocratic leadership style. Other situations demanded appropriate styles of leadership, and it helped a lot.* A*llowed urgent decisions to made without delays* **(P8)**

> *In most cases I applied Democratic leadership style, in cases where there is no compromise, I was forced to employ Autocratic to get things done. Other situations determine which leadership styles was appropriate* **(P9)**

I applied Autocratic leadership style for the benefit of the organization but other leadership styles worked for different contexts **(P10)**

S*trict rules were emphasised through this leadership style, it helped me to lead easily. Made teachers their own master of teaching and parents can visit the school any time. This made the leadership strong and flexible* **(P12)**

I *considered the applicable leadership style and everything was under control* **(P13)**

The positive outcomes experienced by the principals using the situational leadership style is in line with the findings of Ghamrawi (2012) who maintains that there is nothing called "best leadership style", as every situation and context needs a specific leadership style to be presented by the leader to address the situation.

2. **Democratic leadership style:** The four principals who solely used the democratic leadership style revealed that the involvement of staff and parents in execution of tasks and allowing for the sharing of ideas resulted in commitment to the school's goals and efficient school operations as evidenced by the following quotes:

Subordinates and parents were involved and everything was done as it supposed to be done **(P1)**

Resulted in commitment of staff members and sharing of ideas **(P3)**

> *I believed it made the school looked good than before as he shares ideas and gives subordinates chance to participate freely, and they are very appreciative* **(P5)**

> *Execute duties accordingly and being considerate turn things to work out easily* **(P14)**

The findings of this study support the assertion of Hellriegel *et al.* (2017) and Khan *et al.* (2015) that democratic leadership style when implemented correctly can allow the subordinates to become fully motivated and take ownership of the efficient running of the school with limited guidance and input from the principal as evidenced by the following comment:

> *My absence at school could not be noticed as the team owned the school* **(P3)**

3. **Autocratic leadership style:** As this style emphasises on control using strict rules over subordinates **(**Afshari *et al.*, 2012; Henriksen *et al.*, 2016 and Kelly, 2015 & Ghamrawi 2012) the principals were able to lead efficiently as evidenced below:

> *I took over on critical decisions to be made* **(P11)**

All the leadership styles were found to be effective in ensuring that the principals achieved efficient running of their schools.

4.3.3 Technology integration

This section dealt with the principals' views on technology integration, their vision on technology integration for their school, how they have facilitated technology integration and the success of their efforts, the challenges they experienced, what they did as leaders to overcome the challenges, the type of support they received to integrate technology in their schools and the support they still need. The findings are discussed according to the leadership styles to highlight similarities and differences in the impact of leadership style on technology integration in schools.

4.3.3.1 Views on technology integration in education

Literature shows that for technology integration to be implemented effectively, school leaders need to understand the role of technology integration in supporting the academic success of learners (Afshari *et al.*, 2012; Lance, 2012; Uğur & Koç, 2019). Furthermore, several research studies indicate that school principals who see the value of technology integration in education tend to implement it effectively in their schools (Cakir, 2012; Pekin-Jacobs, 2015; Uğur & Koç, 2019).

1. **Situational leadership style:** The principals who used the situational leadership style were found to be positive in their views on using technology integration for education. They believed that technology integration was the future and Namibia's development would be achieved through technology integration in education. They also saw technology integration as a way to motivate and interest the learners in learning and improve learning. Furthermore, technology integration in education was also seen as an approach

to prepare the learners for the world of work and a way to continue to offer education without disruption.

> T*oday's world demand technology, as school leaders, we should open the future of the children. Technology is important and as principals we have the keys to the future generation***(P2)**

> T*echnology attracts the attention and interest of learners, it is a good thing* **(P4)**

> *Technology integration is a way to go, it provides many solutions in life and in economy* **(P6)**

> *Vision 2030 is nearer; it can only be achieved when technology is in place because it has power to change the world* **(P7)**

> T*he only way to go in this technological world is to integrate technology in schools* **(P8)**

> L*earners learn easily with technology, and it will avoid school closure due to COVID-19* **(P9)**

> T*he world demand technology, therefore learners should be equipped with advanced technology as it is their future* **(P10)**

> T*echnology must be integrated in schools, it is essential*

(P12)

> A*s school leaders, we should implement technology in schools and open the future of learners* **(P13)**

2. **Democratic leadership style:** Similar to the principals who used the situational leadership style, principals who used the democratic leadership style also supported the use of technology in education

   T*he world is moving fast in terms of technology, no one should be left out in terms of technology* **(P1)**

   Technology is a good thing; it is supposed to be integrated in teaching and learning **(P3)**

   Technology integration classes should be accommodated on the master time table **(P5)**

   T*echnology is super, it must be implemented in schools*

   (P14)

3. **Autocratic leadership style:** The principal who used the autocratic leadership style displayed the same sentiments towards technology integration as his counterparts as evidenced by the following comment:

   W*ithout technology, one achieves less or nothing, therefore technology integration must be taken seriously* **(P11)**

The findings show that all the principals irrespective of their leadership styles displayed a clear understanding of the importance and value of technology integration in their schools to enhance learning. Technology integration in the schools is the starting point for learners to take their place in the workforce of the 4^{th} Industrial Revolution which will involve learners to work and develop technology solutions for the contemporary world which is embedded in an advanced digital economy of robotics,

automation and artificial intelligence (Machado & Chung, 2015; Webster (2017).

This understanding of principals is critical in not only ensuring the effective implementation of technology integration in the schools but to drive the development of any country as they play a role in shaping the future leaders of any country (Afshari *et al.*, 2012).

4.3.3.2 Principals' vision of technology integration for their schools

Successful implementation of technology integration starts with the school leaders having a clear vision and plan for technology integration (Khajeh, 2018).

1. **Situational leadership style:** The vision on technology integration for principals who used the situational leadership style focused on ensuring that teachers are trained to offer lessons through technology integration, learning resources are acquired, computer labs are operational, computers are available for staff and learners and learning takes place without disruptions:

   T*o ensure technology is integrated and computer lessons are operational* **(P2)**

   I *want to start integrating and using ICT in 2022 and make teaching better* **(P4)**

   Acquire materials and ensure training of teachers to give computer lessons to learners **(P6)**

   T*o be a well-equipped school with technology* **(P7)**

   T*o integrate technology at all levels in the school* **(P8)**

T*o have the second computer lab operating to see all learners navigating their way through technology to enhance their learning experience* **(P9)**

T*o have a well-equipped school with computers and see all learners learning through technology devices* **(P10)**

T*o see all dead computer labs operational* **(P12)**

T*o see learners learning despite COVID-19 after technology is in place* **(P13)**

2. **Democratic leadership style:** In addition to having learning resources and encouraging teachers to integrate technology, principals who used the democratic leadership styles also emphasised the need to budget for technology integration and ensure wi-fi is installed:

   T*o ensure WIFI is installed and computer lessons starts* **(P1)**

   I *would like to budget properly, get resources in place and find a better way of encouraging colleagues to integrate technology* **(P3)**

   T*o ensure resources are available for learners to have access to the computer lab* **(P5)**

   T*o see WIFI installed and move on with the world in terms of technology* **(P14)**

3. **Autocratic leadership style:** Similar to the other principals, the vision of the principal with the autocratic leadership style was to see that the school is fully equipped for technology integration to take place:

   T*o see all schools fully equipped and integrating technology in education* **(P11)**.

All the principals, irrespective of their leadership styles had a vision for technology integration which incorporated training, budgeting, acquisition of electronic learning

resources, having Wi-Fi and computers and operational computer labs. The findings further show that the technology vision and plan of all the 14 principals is embedded in understanding the urgency of preparing the learners for the demands of the digitally advanced world in terms of searching for information, teaching and learning in response to the digital world.

Literature shows that principals who have this type of technology vision for their schools and can lead with example and influence their teachers to own and achieve the schools' technology vision and plan with the required ICT hardware and software, training and support are well on their way to ensuring that technology integration in their schools are successfully implemented (Keane, 2020; Machado & Chung; 2015; Raman *et al.,* 2014).

4.3.3.3 Strategies used by the principal to facilitate technology integration in the schools as per the technology vision and the success of the strategies

In order to achieve the technology vision and plan of a school, a school principal would firstly need to be knowledgeable (Chang, 2012) and skilful (Claro *et al.,* 2017) ensure teachers are trained on how to use ICT effectively in the classroom (Claro *et al.,* 2017) and an investment in the required ICT infrastructure and equipment is made (Raman *et al.,* 2014).

1. **Situational leadership style:** Principals who used the situational leadership style to facilitate technology integration in school as per the technology vision focused on engaging with internal and external stakeholders to obtain the necessary ICT infrastructure such as Wi-Fi and ICT equipment such as computers and have them setup in the school. Computer labs became

operational and teachers were sent for training and received motivation, support and guidance to use technology in the classroom.

This was achieved by using the strengths that different leadership styles provide such as leading by example, allowing teachers to take ownership of the technology vision and plan by inviting their ideas, through support, motivation and training and when needed instructing reluctant teachers to work towards the school's technology vision and plan:

- *Facilitated technology integration by engaging the region and the parents, ensure Wi-Fi is installed and started computer classes which is currently operational. This is a great success. I also motivated teachers and sent them for computer training courses with the support from the parents and the region Engaged stakeholders to support and embrace technology integration and it bears fruits* **(P2)**
- T*ried to make computer lessons operational, encouraged teachers to use personal computers for teaching and it worked*. M*otivated teachers, push the adamant teachers and enforced the use of ICT in teaching* **(P4)**
- M*otivated teachers and ensure that learners are getting classes in the computer lab*. E*mphasised the importance of integrating technology in teaching and tried all possible ways to ensure there is a light of technology at school* **(P6)**
- *I did not find any single computer at the schools. So, I started with engaging parents and asked for donations from stake holders and then NAMPOWER came to their rescue by offer a computer. After some contribution from the stakeholders,*

business community and fundraised from parents, the school was able to buy a computer and a printer. Again, the school was given second hand computers by Klein Kuppe school. This as a great success for the school in comparison with what was there before. Encouraged teachers to use resources at their disposal, put a time table for booking the available laptop for teaching, advised the teacher to help each other, and it worked **(P7)**

- S*tarted with writing submissions to the Ministry of Education, Approaching business community, and sourcing funds from parents and local community. This according to him resulted in securing a number of laptops that catered for senior learners (one class). I celebrated this success as some learners could utilize computers and use various Microsoft packages as well as accessing e-resources and journals for more information*. S*ecured laptops through pushing hard on getting support from the stakeholders. I motivated and engage my teachers especially those who got stuck with the traditional method of teaching to acquire the skills and use technology* **(P8)**
- F*ound computers collecting dusts and un operational, tried and sourced funds and involved the stakeholders as well as the government, successfully ensure that Wi-Fi was installed, secured teachers laptops for educational purposes and made the computer lab operational. They I am happy that there is a light at the end of the tunnel and the struggle for technology integration continues* **(P9)**
- *Engaged the region and the business community for computers' support, and parents for temporary computer teacher's payment/salary. Today, we are actually observing our success*

as our schools secured a computer lab and a qualified computer teacher whose salary is paid by the government **(P10)**

- T*urned the collecting dust computer lab into an operational one, ensure technology is operational in teaching*. E*nsure technology is facilitated and turned collecting dust lab into an operational one* **(P12)**
- D*espite slow process of getting full technology integration at our school, I tried to get donations and resources, motivated teachers and today we are testing the smell of technology at our school* **(P13)**

2. **Democratic leadership style:** The strategies that the leaders with situational leadership style were also found to be present in the school runs by the principals with the democratic leadership style as evidenced by the following comments:

   - *In three months, upon my arrival at school as a new principal, I managed to get WI-FI installed and turned all the dead facilities into operational ones. I made an immense contribution in ensuring that all the broken chairs were collected and fixed, internet/Wi-Fi was installed and extended, revived what was dead and ensured manpower and facilities were available for technology integration.* **(P1)**
   - E*ncouraged those that were still stuck with traditional method of teaching and motivated them to attend training and learn how to utilize technology devices while ensuring that the WI-FI was operational* **(P3)**.
   - M*ade efforts to engage the ministry of Education as an umbrella body in technology integration at the school. I also appealed to*

different organisations and parents to support technology integration at school. It helped **(P5)**.

- R*aised technological challenges in parents meeting, encourage teachers to embrace technology, managed to secure some laptops via parents' contributions and the region* **(P14)**.

3. **Autocratic leadership style:** Principals who led using the autocratic leadership style also ensured that just like their counterparts with situational and democratic leadership they obtained the required support to setup the necessary ICT infrastructure and equipment and ensured teachers were trained to use technology in the classroom

Asked the government, parents and companies for support, and secured a computer lab and a qualified teacher paid by the government. I found computers collecting dust and un operational and as I am speaking the lab is operational **(P11)**

All the above-mentioned strategies that the principals used irrespective of their leadership style ensured that they were in a position to implement their technology vision and they started to reap the success of their efforts.

4.3.3.4 Challenges faced by the principals in achieving complete technology integration

All the principals have indicated that they have faced the following challenges when integrating technology in their schools. which they have tried to overcome where possible. Technology integration in education in Africa is affected by limited experience and understanding of how to use the technology effectively to facilitate learning (Afshari *et al.,* 2012; Henriksen *et al.,* 2016 and Kelly, 2015). Another reason

for the limited uptake is due to lack of adequate training in ICT and lack of access to the technology (Gemenda and Lee, 2020).

1. **Situational leadership style:** The principals who used the situational leadership style encountered challenges in achieving the technology vision of the school. These challenges took the form of teachers who were not adequately trained to use technology in the classroom, limited time to integrate technology IT effectively into lessons, teachers' resistant to technology integration, unstable network, limited ICT infrastructure and equipment and insufficient funds to secure the required ICT infrastructure and equipment:
    - *Teachers need skills to integrate technology. No enough time for IT.* **(P2)**
    - *Teachers lack skills in ICT. No money to buy ICT devices. Aging staff members stuck with traditional methods.* **(P4)**
    - *No stable network. Lack of ICT facilities. Lack of ICT skills by teachers. Old teachers not comfortable with the use of technology* **(P6)**
    - *No skills/no exposure during training especially for old teachers. We need more technological devices. There are no resources and my teachers are sharing one laptop to go teach (***P7)**
    - *Teachers are not well equipped in ICT. We face a challenge of good network. Insufficient funding to buy resources and fix facilities. Resistance to change by some members. Unstable network coverage.* **(P8)**
    - *Insufficient resources. Lack of teachers training. Some staff members do not want to use technology* **(P9)**

- *We have a challenge of insufficient resources. Teachers are not trained in ICT. Aging and adamant teachers are resistant to change as they stick to the traditional method of teaching* **(P10)**
- *Lack of technological resources. Teachers are struggling, they are not well trained* **(P12)**
- *No resources. Lack of skilled teachers* **(P13**)

2. **Democratic leadership style:** The challenges faced by the principals who used the situational leadership were also experienced by the principals who used democratic leadership style:

    - *Facilities are not enough for learners and colleagues are struggling, not well equipped. Man power challenge. Other colleagues are struggling, not well equipped. No money to buy ICT devices. Colleagues are struggling, not well equipped.* **(P1)**
    - *Few projectors and insufficient are blocking technology integration at our school. Lack of qualified teachers. Time is not enough for technology integration in classes. Unwillingness of some staff / reluctant to change. Poor infrastructure for technology integration. Lack of encouragement/no driving force from the top authority to encourage teachers and principals to embrace technology. Insufficient facilities, lack of manpower and adamant aging teacher are making the process so tough. Poor infrastructures and unwillingness of teachers to make use of technological devises is many times disappointing* ***(P3)***
    - *No ICT/ facility room, few technological devices, teacher. Teachers lack skills in ICT. Teachers lack skills in ICT. Insufficient funding to buy resources and fix facilities. Unstable network* ***(P5)***

- *Insufficient technological facilities. Many teachers unskilled teachers in ICT (**P14)***

3. **Autocratic leadership style:** The principal who used the autocratic leadership style experienced the same challenges as the other principals:
    - *Resistance to change by the old members. Insufficient computers and labs. Untrained teachers. No IT instructor* **(P11)**

The findings of this study show that having principals who understand the need for technology integration and have a technology vision and plan for their school alone is not sufficient for effective technology integration. Principals need teachers who are well equipped in IT skills and the pedagogical skills to integrate technology in the classroom, they also need to be willing and motivated to use technology in the classroom. Furthermore, they need funds to equip the schools with the required ICT infrastructure and equipment and have access to consistent and reliable network all the time. These challenges were consistent in all the schools irrespective of the leadership style of the principals.

The detrimental impact of challenges such as teachers with lack of adequate training and understanding of how technology can be used to deliver education and lack of adequate ICT hardware and software to achieve the school's technology plan and vision are well documents in literature (Cakir, 2012). (Gervasius, 2020; Raman (2019). If these issues are not resolved then technology integration will continue to remain a dream and not a reality.

4.3.3.5 Strategies used by the principals to overcome the challenges they faced in technology integration

Technology integration in teaching and learning process is a multidimensional and complex process that involves school management, technological devices, teachers, learners, educational programmes and a sustainable and updated teaching learning process Akcil *et al.* (2021).

Principals are accountable for the success of technology integration in schools and thus it is their responsibility to ensure that they secure the required funds for the ICT infrastructure and equipment (U.S. Department of Education, 2017) have the required ICT infrastructure and equipment setup for technology integration to take place (Ghavifekr and Rosdy, 2015; Laouni, 2020; Raman, 2019) motivate and encourage their teachers to use technology and ensure they are trained with the required skills to use technology in the classroom (Claro *et al.* 2017).

1. **Situational leadership style:** Principals with the situational leadership style ensured that they got support from stakeholders such as the parents, regional office and community to raise the funds to obtain the required ICT infrastructure and equipment, made it mandatory for teachers to use technology in the classroom and motivated and supported them to use it effectively in the classroom. While raising funds and obtaining the required ICT infrastructure and equipment and ensuring teachers were trained and using technology in the classroom were within the control of the principals, the poor network connectivity challenge was found to be a difficult to challenge to overcome as that is an area that is not within their control:
    - I*nvolved parents, involved the region and got teachers trained* **(P2)**

- M*otivated the skilled teachers to help the struggling teachers* **(P4)**
- M*ade it a must that all the teachers must use laptops in their teaching* **(P7)**
- W*e don't have control over network.* T*eachers especially old age ones are hardly moved, but I tried and let them use computers* (**P8)**
- T*he region provided us with ICT teacher* **(P9)**

2. **Democratic leadership style:** Similar to the principals with the situational leadership styles, the principals with the democratic leadership style sought support to get the required ICT infrastructure and equipment and influence teachers to use technology in the classroom:

> W*rote letters to different organizations and requested for computers and other technology donations, that resulted in securing some laptops.* A*s a principal I tried to influence some to change and like technology* **(P3)**

3. **Autocratic leadership style:** The principal with the autocratic leadership style also used the same strategies like the other principals to secure donations for the ICT infrastructure and equipment and ensure teachers are trained and supported to use technology in the classroom:

> *Asked for donations, WIFI installation and the ministry helped in sending some teachers to training* (**P11)**

The findings show that all the principals irrespective of their leadership style took responsibility for ensuring that the technology vision and plan for their schools by sourcing the required funds and donations for the setup of the required ICT infrastructure and equipment and supported the teachers with training and motivation to use technology in the classroom.

4.3.3.6 Support received by the school principals for integration of technology at their schools

In the previous sections, the challenges faced by the principals to ensure technology integration and strategies they used to overcome the challenges were explored. The main challenge they faced was the lack of ICT infrastructure and equipment and they rallied up the parents, regional office and general community to secure the funds and donations to ensure the required ICT infrastructure and equipment were obtained and setup. In this section, the successes of those efforts are discussed.

1. **Situational leadership style:** The principals who used situational leadership styles to secure support for donations and funding to ensure that they received the required ICT infrastructure and equipment to achieve their technology vision found their efforts rewarded by the MoEAC, parents, and community. Some of the support they received were payment for access to Internet, operational computer labs, security services for their operational computer labs, ICT teacher for computer subjects, and ICT equipment for the classroom such as smartboards and laptops:
    - *Government paid for internet. The government offers security services for our lab. We appreciate the parents' support. We just want the region to extend the Wi-Fi to cover the whole school* **(P2)**
    - *We appreciate the training and motivation offered by the stake holders. The region provided us with the ICT teacher* **(P10)**
    - **(P4)**
    - *We received board for the lab, we are grateful of the operational laboratories* **(P6)**

- *We thank the parents for the support. The ministry of Education via the region pays our alarms for the computer lab and we are proud* **(P7)**
- *We are proud we were sponsored laptops. Parents made immense contribution* **(P8)**
- *Parents embrace and support immensely. We are given computers. We appreciated the support we have received from the government, parents and other organization in terms of technology integration, but is not enough* **(P9)**
- *Parents supported the initiation* **(P10)**
- *We get good support from parents* **(P12)**
- *We get good support from parents* **(P13)**

2. **Democratic leadership style:** Similar to the principals who used the situational leadership styles, those who used the democratic leadership style were also rewarded for their efforts in securing the necessary ICT infrastructure and equipment from the parents, MoEAC, and community:
    - *Internet is paid by the government***.** *We are given computers* **(P1)**
    - *Government supported with computer lab. We appreciate the support from the region. We are now utilizing the lab that was not operational. Parents donated and contributed.* **(P3)**
    - *Government and private organization helped in technology integration. Ministry provided smart boards. Sponsored by private organization* **(P5)**
    - *We get good support from parents. We are thankful of the support that made our lab operational* **(P14)**

3. **Autocratic leadership style:** The principal who used the autocratic leadership style received support from the parents to ensure that technology integration happens in the school:

   We get good support from parents **(P11)**

The findings once again show that every leadership style was successful in securing the required donations and funds to obtain the required ICT infrastructure and equipment to make ICT integration a reality.

4.3.3.7 Additional support required by the school principals for integration of technology at their schools

While the schools received support from the MoEAC, regional office, parents and community to secure funds and donations for the required ICT infrastructure and equipment, there is still a need for more ICT infrastructure and equipment. This is because for effective technology integration to take place, everyone in the schools must have access to the required ICT infrastructure and equipment and learning resources. Furthermore, these must be regularly updated and maintained. Teachers also required continuous training and for the computer subjects well trained IT teachers are required.

1. **Situational leadership style:** The needs identified by the principals who used the situational leadership show that continuous support in the form of funds and donations is required from the different stakeholders to be able to ensure that all the learners and teachers have the required ICT infrastructure, equipment, functional computer laboratories, security, regular training for the teachers in the form of continuing professional development, stable and

reliable Internet connection, and qualified and skilled IT teachers for computer studies:

- *We need security for our lab. We need more time. Stable Wi-Fi. We need technology devices. More computers for teachers to integrate technology in teaching* **(P2)**
- *More funds. We need technology devices. More computers for teachers to integrate technology in teaching. Good lab needed. Security for the lab and the school* **(P4)**
- *More money needed. We want to be given a qualified ICT teacher. Good network. Security for the lab and the school. More resources such as technology devices. Laptops for our lab* **(P6)**
- *Alarm for the lab and school. More resources such as technology devices. More financial support required. Training for teachers needed. Need region support for ICT resources* **(P7)**
- *We want to be given a qualified ICT teacher. Stable Wi-Fi. Alarm for the lab and school. More resources such as technology devices. More financial sponsorship. Training for teachers needed. Need region support for teachers to embrace technology. Laptops for our lab. We need good furnished labs* **(P8)**
- *Stable Wi-Fi. Qualified instructor. More resources such as technology devices. More money donation needed. Laptops for our lab. Computers for all the learners. Good lab needed* **(P9)**
- *More resources such as technology devices. Continuous training required. Well-equipped laboratories* **(P10)**

- *Good network. Advance training needed. Computers for all the learners. I am looking forward to have the second computer lab at school* **(P12)**
- *Strong network covers the whole school. Qualified instructor. Security services needed for both labs and school. More resources such as technology devices* **(P13)**

2. **Democratic leadership style:** The needs identified with the principals with the democratic leadership style were similar to the needs of the principals who used situational leadership style for technology integration in their schools:
    - *We need qualified IT teacher.* We need stable network. *We want our lab to be fixed. We need good furnished labs. We need many computers to cater for many learners* **(P1)**
    - *We want to be given a qualified ICT teacher. We need security for our lab. We need technology devices. We need convenient infrastructure. More computers for teachers to integrate technology in teaching. We need good furnished labs* **(P3)**
    - *We need qualified personnel. IT teacher. More funds. Alarm for the lab and school* **(P5)**
    - *Strong network covers the whole school. IT teacher. Technology resources and facilities. Advance training needed* **(P14)**

3. **Autocratic leadership style:** Just like their counterparts who used the situational leadership and democratic leadership styles, the principals who use the autocratic leadership style emphasised the need for continuous training and reliable network:

   Good network. Continuous training required. **(P11)**

The findings again show that despite the type of leadership style used by the principals, the needs of the schools for effective technology integration remain the same.

4.3.3.8 Impact of the leadership styles of principals on efforts to effectively integrate technology in the schools

This section discusses the findings related to the main objective of this study which was to determine the impact of leadership style of the principals in effective technology integration in the schools. While literature has established that successful technology, integration starts with a clear vision and goals and a plan to achieve that vision (Khajeh 2018) and that mandate lies with the leadership, studies also show that there is no perfect leadership style, and the extent and effectiveness of influence depends on choosing the appropriate leadership style required to address the situation (Hellriegel *et al.* 2017; Zakeer *et al.* 2016).

1. **Situational leadership style:** The principals who used the situational leadership style found that by using a style that was suited to the context and situation they found themselves in, they were able to influence their subordinates to integrate technology in the schools through training and support and have the required ICT infrastructure and equipment setup to facilitate learning with technology:

- *I lead by example by listening to the subordinates on their initiatives and discuss together especially on the issues that concern technology integration at school. This has allowed me to influence others in prioritizing technology in their teaching. I let everyone one the school, do what is right and together the school managed to get resources a*nd *I tried every possible way to make the school developing technology integration, it worked* **(P2)**.
- I *encouraged and pushed the adamant staff to move on with technology, I am happy we are moving together. I tried to request for the resources and influence teachers which was not easy especially the unwilling staff members to use technology, but with different strategies, it was successful* **(P4)**.
- I *managed to push and have an operational computer lab; I am proud as we work together at school. With appropriate ways of securing resources and influencing others to use technology, things moved in a positive direction* **(P6)**.
- I *wished to successfully integrate the latest technology, but with time the hope is to have all in place, it was a good beginning and we are moving towards the full integration of technology* **(P7)**.
- A*s a democratic leader, I consulted people and through team work we managed to implement effective programs. I managed to convince the experienced teachers to support the struggling one, I lead they follow. I am happy that my leadership made a difference. I tried and reinforce what I wanted to see the school to do/be, and especially the staff members who were resistant to change, I forced them to join the change. I managed to influence*

them and win their will; I am still pushing but so far, I am happy with what I observe today. I made things work by employing relevant strategies that respond to the need. I am happy we push forward **(P8)**.

- S*o far, I brought changes/improvement for the benefit of the school* **(P9)**.
- *I found nothing or rather found computers collecting dusts and brought about significant change as there are currently a computer lab of which learners' access for learning purposes* **(P10)**
- *I am happy, I managed to bring change and influence others to use technology in their teaching, though more support is still needed. I influenced others to join the change and we secured resources that made it possible. This worth applauding* **(P12)**.
- *Yes, my leadership styles are successful, and with enough resources, we will achieve high* **(P13)**.

2. **Democratic leadership style:** Just like their counterparts who used the situational leadership, the principals who used the democratic leadership style were able to influence their subordinates positively through their own expertise in technology integration, leading by example, engaging them in the development and implementation of the technology vision plan and by ensuring that their teachers are trained and supported with the required ICT infrastructure and equipment:

    - M*y knowledge of technology at his school is above other colleagues and always tried as a leader to do all the activities, e.g., recording lessons, teaching and presenting lessons through*

the use of technology. I instilled and influenced other to do the same. I am happy that most of the subordinates are emulating the good example **(P1)**

- *I got good ideas from subordinates, we discuss together issues pertaining technology, I motivated adamant teacher and influence them to use technology, and I am happy we are pushing forward* **(P3)**
- *I used different strategies to influence others to use technology and to secure facilities, I am happy but I still need support* **(P5)**
- *I lead by example, there is a change, though we still need more support* **(P14)**

3. **Autocratic leadership style:** The principal who used the autocratic leadership style was also able to bring about change in the school through his leadership style:

   I made impossible possible, that is a success **(P11)**.

The findings of this study show that all the leadership styles were effective in ensuring positive results in the implementation of the school's technology vision and plan.

Summary: In this chapter, the procedure used to analyse the data collected using the semi-structured interview guides was presented. The 14 principals were identified through codes of P1-P14 and thematic analysis was used to identify the categories and themes that arose from the data collected. The analysed data was discussed using the identified leadership styles to highlight similarities and differences between the leadership styles in terms of the principals' technology vision and plan and efforts to successfully integrate technology in their schools. The findings show that all the leadership styles were found to be effective in ensuring technology integration takes place in the schools. In the next chapter the findings relating to the research objectives of the study are discussed along with recommendations to support the efforts of the principals in achieving full technology integration in the schools.

CHAPTER 5

5.1 INTRODUCTION

The aim of this chapter is to discuss the research objectives of this study and provide recommendations and areas for further research based on the findings. The findings of this study are based on the data collected from 14 principals through semi-structured interviews and analysed using thematic analysis.

5.2 RESEARCH OBJECTIVES

The main objective of this study was to analyse the impact of the secondary school principals' leadership style on technology integration in the Oshana region. The following three sub-objectives allowed the research to achieve the main objective:

1. To identify the leadership styles used by public secondary school principals in the Oshana region
2. To determine the impact of the Oshana public secondary school principals' leadership style on technology integration in schools
3. To examine strategies that would encourage the change to the leadership style that supports effective technology integration in public secondary schools in the Oshana region.

5.2.1 Identify the leadership styles used by the public secondary school principals in the Oshana region

The findings of this study show the main leadership style identified in this study as situational leadership. Nine of the 14 principals fell into this

category. They used autocratic, democratic and laissez-faire styles depending on the context and situation. The second category was comprised of four principals who used the democratic style exclusively and one principal who used autocratic style exclusively.

5.2.2 To determine the impact of the Oshana public secondary school principals' leadership style on technology integration in schools

The findings of the study show that all the leadership styles were effective in achieving partial technology integration in the schools based on the principal's technology vision and plan for their schools.

Principals who used the democratic leadership style discussed the use of open-door policy, consideration of their subordinates' ideas and involving subordinates in the discussions of issues pertaining to technology integration in their school. They added that they motivated their teachers to integrate technology by leading by example, providing training and support and ensuring that the required ICT infrastructure and equipment was available for technology integration in the classroom.

This finding is in line with the literature which states that the characteristics of democratic leaders is to get input from others, guide the subordinates, participate in the technology integration process which makes subordinates engaged, creative and motivated (Khan *et al.,* 2015). Thus, by incorporating others in conceptualising, planning, developing and implementing the technology vision and plan (Raman *et al.*, (2014); Zakeer *et al.* (2016) partial technology integration was successfully achieved in the schools.

The findings further show that the principals who used the autocratic leadership style dictated how technology integration should take place as per the principal's vision and plan and demanded that the subordinates achieve the vision and plan. This characteristic of autocratic leaders of demanding that the subordinates conform to their decisions without questioning it and having any input in the decision is supported by evidence in literature (Khan *et al.,* 2015; Zakeer *et al.,* 2016). The findings of this study show that though this style was adopted exclusively by one principal and other principals who used the situational leadership style, it was effective in achieving the partial deployment of the schools' technology vision and plan as envisioned by the principal.

Another leadership style observed in this study was the laissez-faire leadership style. This style was not used exclusively by any principal but by principals who adopted the situational leadership style. The findings show that the principal with his leadership style left the conception and implementation of the school's technology vision and plan in the hands of the teachers and allowed them to decide what was best suited for the school. The characteristic of leaders with this style giving complete freedom of decision making and implementation to subordinates with limited influence from the leader is stated in literature (Khan *et al.,* 2015) Zakeer *et al.,* 2016). This style was also found to be effective in achieving the partial fulfilment of the technology vision and plan of the schools.

Nine of the 14 principals adopted the situational leadership style in which styles of democratic, autocratic and laissez-faire were applied depending on

the context and situation the principals had to deal with. The effectiveness of the situational leadership style which allows for flexibility in addressing the situation is also supported by literature where it is maintained that when we use the appropriate style for the situation instead of one style exclusively, positive results are achieved (Ghamrawi, 2012).

Thus, the findings of this study support the findings in literature (Khan *et al.*, 2015) that all the leadership styles can be effective in terms of efficient school management and achieving the schools' technology vision and plan provided they are applied within the context of the situation. Furthermore, by using a flexible approach to using leadership styles, the principals were able to harness the strengths and offset the weaknesses of each leadership style.

5.2.3 Examine strategies that will encourage the change to the leadership style that supports effective technology integration in public secondary schools in the Oshana region

The findings of this study further show that leadership style alone is not sufficient to achieve complete technology integration in schools. Schools need continuously trained and skilled and motivated teacher along with ICT teachers for computer subjects along with the reliable, stable and funded Internet connection, ICT infrastructure and equipment such as laptops and operational computer labs, electronic resources and funds to fully furnish the school and continuously upgrade and maintain the ICT hardware and software. Furthermore, without the continuous support of the MoEAC, regional office, parents and community, complete and efficient technology integration will remain a dream and not a reality in the Oshana region.

5.3 RECOMMENDATIONS

The study aimed at identifying the leadership styles applied by the secondary school principals in the Oshana region and studying their impact on technology integration in their schools through the various strategies they implemented for effective technology integration.

The findings of this study show that the leadership styles of the principals alone are not enough to ensure complete and effective technology integration in the schools. Challenges of limited funds to upgrade and maintain the ICT hardware and software, training and support for teachers threaten to undermine the efforts of the principals in achieving their schools' technology vision and plan. Also, availability of skilled ICT teachers, and setup of fully furnished and functional computer labs for all the learners along with the laptops for teachers and stable, reliable and subsided Internet connection could undermine the efforts of the principals in achieving their schools' technology vision and plan and producing the workforce Namibia needs for its digital revolution and development.

The following recommendations are thus based on the findings of this study and supported by literature to build on the partial achievements of the principals and ensure complete technology integration in their schools:

5.3.1 Digital devices to support teaching and learning

Digital devices such as computers, laptops and smartphones in schools make it easier for teachers to conduct research, collaborate, communicate, prepare and present their lessons effectively. Furthermore, access to such digital

devices allow learners to develop their computer and digital literacy skills while using the resources available on the Internet to enhance their learning, communicate and collaborate with others.

5.3.2 Reliable and stable Internet connection

Without a reliable and a stable Internet connection, students and teachers will not be able to fully benefit from the resources the Internet provides. Furthermore, the communication and collaboration opportunities that the Internet provides are vital to the academic success of the schools.

5.3.3 Funding for the acquisition, upgrading and maintenance of ICT hardware and software

Everyone can only benefit from technology integration if they have regular and reliable access to the devices and the Internet. This means that all the learners need to have access to fully furnished and operational computer laboratories and teach needed access to digital devices. Technology changes rapidly every day and as such funding needs to be made available to ensure that all the ICT hardware and software used in the schools are regularly upgraded and maintained.

5.3.4 Training and continuing professional development opportunities

All qualifications designed to train teachers and principals must include ensuring that they receive the knowledge and skills related to ICT in education. This should involve how to use technology for teaching, learning,

assessment and administration. Teachers and principals must receive regular training through continuing professional development programmes.

5.3.5 Time and support for teachers to learn and develop the skills to integrate technology in the classroom

Principals should ensure that teachers are provided with the required time and support to learn and sharpen their skills for effective technology integration in the classrooms.

5.3.6 Appointment of ICT teachers and IT technicians

Every school should ensure that they have qualified ICT teachers to teach ICT related subjects and IT technicians to provide support to the teachers and principals in their efforts to achieve the technology vision and plan.

5.4 AREAS FOR FURTHER RESEARCH

The findings of this study are provided only from the perspective of the principals. It is important to include the voices of the other principals who did not partake in this study. Also, teachers, learners, parents, the community and regional office of the Oshana region. Furthermore, such studies can extend to pre-primary and primary school levels in the region. Such efforts have the potential to obtain a holistic understanding of the issues that prevent complete and effective technology integration in the Oshana region and may allow the regional office to provide sustainable solutions to support the technology integration efforts of the region.

Furthermore, by conducting similar studies in other regions, regional offices may be able to gain a holistic understanding of the issues that affect technology integration in their respective regions and provide solutions that can tackle technology integration at regional levels. Such interventions have the potential to support the vision of the MoEAC to offer technology integration in education for all.

5.5 RESEARCH CONCLUSIONS

The aim of this study was to understand the impact of the leadership styles on technology integration in secondary schools in the Oshana region. The findings of this study show that all the leadership styles used by the principals were equally effective in allowing them to achieve their schools' technology vision and plan. Their efforts to achieve full technology integration was hampered not by the leadership style but by limited funds for the acquisition, upgrading and maintenance of the required ICT hardware and software, training for the teachers and reliable and stable Internet connection. It is further the contention of this study that principals require the support of the regional office, parents and the community to achieve the dream of effective technology integration in the Oshana region.

Last but not least, one of the limitations of this study was the exclusion of voices of the principals who did not partake in this study, teachers, learners, parents and the regional office. Understanding technology integration from their perspective has the potential to allow the regional office at the Oshana region to gain a holistic understanding of the situation on the ground and provide the means to tackle this issue at a regional level. Such initiative has

the potential to support the efforts of the MoEAC to achieve the national development goals of the country through technology integration in education.

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APPENDIX A: PERMISSION LETTER FROM NBS

NBS
NAMIBIA BUSINESS SCHOOL
UNIVERSITY OF NAMIBIA

27 October 2021

TO WHOM IT MAY CONCERN

Re: MBA Management Strategy , Student – Ms. Frieda Kapolo Student Number-9709606

As part of our Masters Programme, students are expected to submit a research report after completion of their course-work. They need to explore in detail, some concepts and issues pertaining management strategies. To do that effectively, they need to conduct interviews and obtain practical examples.

Ms. Kapolo has chosen your organization to approach for information. It is against this background that I wish to kindly request you to assist Ms. Kapolo with the information she requires. Accept our assurance that the data will be used for academic purposes only. A copy of the completed document will be available at the Namibia Business School for perusal. Her research synopsis indicates that her topic touches on *"Analysis of the impact of Oshana region's secondary school principals' leadership style on technology integration "*.

Your kind assistance is highly appreciated.

NAMIBIA BUSINESS SCHOOL
NBS
27 OCT 2021
ACADEMIC SERVICES
UNIVERSITY OF NAMIBIA
Inspiring Minds & Shaping the Fut—

Yours sincerely

Greenfield Mwakipesile. Dr
Senior Research Co-Ordinator
Namibia Business School
University of Namibia
Tel: +246 61 413 500
Fax: +246 61 413 512
Email: mwakipg@nbs.edu.na

APPENDIX B: PERMISSION LETTER FROM OSHANA REGION

REPUBLIC OF NAMIBIA

OSHANA REGIONAL COUNCIL
DIRECTORATE OF EDUCATION, ARTS AND CULTURE
ASPIRING TO EXCELLENCE IN EDUCATION FOR ALL

Tel: 065 - 229800/25
Fax: 065 - 229834
Private Bag 5518
Oshakati

Enquiries: Hileni M Amukana
Ref. 13/2/9/1

Frieda Kapolo
P.O. Box 80075
Ongwediva

SUBJECT: PERMISSION TO CONDUCT A RESEARCH IN OSHANA REGION

Your letter dated 01 November 2021 on the above caption bears reference.

Kindly be informed that permission is hereby granted to conduct research study at 14 schools in Oshana Region.

This permission is subject to the following strict conditions; (i) There should be minimal or no interruption on normal working schedule (ii) Ethical issues of confidentiality and anonymity should be respected and retained throughout this activity i.e. Voluntary participation, and consent from participants

Both Parties should understand that this permission could be revoked without explanation at any time.

Furthermore, we humbly request you to share your research findings with the Directorate of Education, Arts and Culture, Oshana Region. You may contact Ms. Hilma Nuunyango-George, the Deputy Director; Programs and Quality Assurance (PQA) for the provision of summary of your research findings.

We wish you the best in conducting your study.

Yours sincerely,

12/11/2021

HILENI M. AMUKANA
REGIONAL DIRECTOR

OSHANA REGIONAL COUNCIL
DIRECTORATE OF EDUCATION, ARTS & CULTURE
OFFICE OF THE DIRECTOR
12 NOV 2021
Private Bag 5518
OSHAKATI
REPUBLIC OF NAMIBIA

Cc: Deputy Director of Education, Arts and Culture

All Official Correspondence must be addressed to the Regional Director

APPENDIX C: PARTICIPANTS INFORMATION SHEET

Participants Information Sheet for Secondary School principals in the Oshana Region

Please read through all the information carefully before you make a decision to partake in the study.

Title of the study: Analysis of the Impact of Secondary School Principals' Leadership Style on Technology Integration in the Oshana Region

Purpose of the study: To obtain an in-depth understanding of the impact secondary school principals' leadership style have on technology integration at their schools in Oshana region.

My name is Frieda Leena Ndeyapo Kapolo, an MBA-Management Strategy student at the University of Namibia. I am conducting a study to understand the impact secondary school principals' leadership style have on successful technology integration in the Oshana region.

As a principal of a secondary school in the Oshana region, you are invited to partake in this study. Your participation in this interview is voluntary. The interview will take between 10-15 minutes and will be recorded with your permission. The interview will take place at a time and venue that suits you. You are free to withdraw from taking part in this study at any time without providing any reasons for the withdrawal, and without any negative consequences.

All the information you provide will kept confidential and not shared with anyone other than my supervisor. Notes will be taken during the interview. The interview

recording will be deleted once the transcript has been completed and verified. The transcripts and notes will not reveal your name or any identifying information. All the transcripts and notes will be destroyed after one year.

The data collected will be used for the purposes stated and possible publications.
Thank you very much for your time.

APPENDIX D:
PARTICIPANT CONSENT FORM

Consent Form

Title: Analysis of the impact of secondary school principals' leadership style on technology integration in the Oshana region.

Researcher: Ms. Frieda Leena Ndeyapo Kapolo, MBA. Candidate, NBS, University of Namibia

Please tick box

1. I confirm that I have read and understand the information sheet explaining the above research project and I have had the opportunity to ask questions about the project. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐
3. I understand my responses and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. ☐
4. I agree to take part in the above research project. ☐
5. I agree that the data collected from me can be used in the research project. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of researcher	Date	Signature

Copies: All participants will receive a copy of the signed and dated version of the consent form and information sheet for themselves. A copy of this will be filed and kept in a secure location for research purposes only.

Researcher: Ms. Frieda L.N Kapolo Mobile: 0812565698 Email: atafriedakapolo@yahoo.com	**Supervisor:** Dr Leena Kloppers Mobile: 0813328895 Email: lkangandji@gmail.com	**Head of Research/** The Rev. Dr. Greenfield Mwakipesile Namibia Business School University of Namibia Tel: (264) 61 413501 Email: mwakipg@nbs.edu.na

APPENDIX E: PARTICIPANT INTERVIEW GUIDE

NAMIBIA BUSINESS SCHOOL
UNIVERSITY OF NAMIBIA

Interview guide for Principals of Secondary Schools in Oshana Region

Title of the study: Analysis of the Impact of Secondary School Principals' Leadership style on Technology Integration in the Oshana Region

Researcher: Ms Frieda Leena Ndeyapo Kapolo

Supervisor: Dr Leena Kloppers

Section A: Demographic Data

1. Gender: a) Male
   b) Female

2. Age: a) 20-30
   b) 31-40
   c) 41-50
   d) 51- and more

3. Position: a) Principal
   b) Acting principal

4. Years of experience as principal/acting principal
   a) 1 year or less
   b) 2-5 years
   c) 6-10 years
   d) More than 10 years

Section B: Leadership Style

1. In your own words, please describe your leadership style.

2. Please explain how your leadership style impacts your effectiveness as a principal in your school.

Section C: Technology Integration

1. What are your views on technology integration in schools?

2. What is your vision of technology integration for your school?

3. What have you done in your capacity as a principal to facilitate technology integration in your school as per your vision?

4. How successful have you been in your efforts to integrate technology successfully? Please provide evidence for your answers.

5. What are some of the challenges you face as a principal to ensure technology integration is successfully implemented in your school?

6. How do you in your capacity as principal overcome these challenges? Please provide evidence for your answers.

7. What type of support do you receive to successfully integrate technology in your school?

8. What other support do you need to successfully integrate technology in your school?

9. Do you feel your leadership style is effective for successful technology integration in a school? Please explain your reasons.

10. Any other comments

Thank you for your time

APPENDIX F: SIMILARITY CHECKS REPORT

Curiginal

Document Information

Analyzed document	MBAMS 2021 research Full Thesis.docx (D132223101)
Submitted	2022-04-01T00:04:00.0000000
Submitted by	
Submitter email	atafriedak@polo@yahoo.com
Similarity	3%
Analysis address	mwakipg.unam@analysis.urkund.com

Sources included in the report

SA	**University of Namibia / Ndala_chpt_1-5_Boer Comments.docx** Document Ndala_chpt_1-5_Boer Comments.docx (D30445008) Submitted by: pjboer@unam.na Receiver: pjboer.unam@analysis.urkund.com	1
SA	**University of Namibia / Elia K. September 27 2021 (1).docx** Document Elia K. September 27 2021 (1).docx (D113593986) Submitted by: dnkengbeza@unam.na Receiver: dnkengbeza.unam@analysis.urkund.com	3
SA	**University of Namibia / NDATALA MASTERS THESIS CHAPTERS 1-5_BOER_Review (1).docx** Document NDATALA MASTERS THESIS CHAPTERS 1-5_BOER_Review (1).docx (D120317945) Submitted by: pjboer@unam.na Receiver: pjboer.unam@analysis.urkund.com	5
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SA	**University of Namibia / sylvia proposal-1.docx** Document sylvia proposal-1.docx (D101101277) *Submitted by: wnashidengo@unam.na* Receiver: ekwembeya.unam@analysis.urkund.com	1
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W	URL: https://eric.ed.gov/?id=EJ1185796 Fetched: 2020-01-31T10:34:53.5730000	1

APPENDIX G: LANGUAGE EDITING CERTIFICATE

Dr.GM

The Rev. Dr. Greenfield Mwakipesile
ThD, MBA, HBS | mwakipg@outlook.com

CONTACT

PO Box 99539,
UNAM,
Namibia

LANGUAGE & COPY-EDITING CERTIFICATE

4th April 2022

RE: LANGUAGE, COPYEDITING AND PROOFREADING OF FRIEDA LEENA NDEYAPO KAPOLO's THESIS FOR THE MASTER OF BUSINESS ADMINISTRATION DEGREE OF THE NAMIBIA BUSINESS SCHOOL OF THE UNIVERSITY OF NAMIBIA

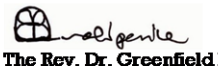
This certificate serves to confirm that I copyedited and proofread **FRIEDA LEENA NDEYAPO KAPOLO's** Thesis for the **MASTER OF BUSINESS ADMINISTRATION DEGREE** entitled: **AN ANALYSIS OF THE IMPACT OF PUBLIC SECONDARY SCHOOL PRINCIPALS' LEADERSHIP STYLE ON TECHNOLOGY INTEGRATION IN THE OSHANA REGION OF NAMIBIA**

I declare that I professionally copyedited and proofread the thesis and removed mistakes and errors in spelling, grammar, and punctuation. In some cases, I improved sentence construction without changing the content provided by the student. I also removed some typographical errors from the thesis and formatted the thesis so that it complies with the University of Namibia's guidelines.

I am a trained language and copy editor and have edited many Postgraduate Diploma, Masters' Thesis, Dissertations and Doctoral Dissertations for students studying with universities in Namibia, Zimbabwe, Eswatini, South Africa and abroad. I have also copy-edited company documents for companies in the region and abroad.

Please feel free to contact me should the need arise.

Yours Sincerely,



The Rev. Dr. Greenfield Mwakipesile

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