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Using Strategic Agility Principles To Stimulate Digital Innovation In Zimbabwe's Tertiary Sport

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Declaration

I hereby certify that this thesis is entirely my own and has never been submitted in whole or in part with any other degree application. Unless otherwise stated in the references or acknowledgements, everything of the work given is entirely my own.

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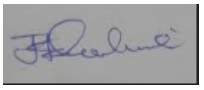
Signature: 

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Supervisor Approval Form

I confirm that the student, JONHASI STEWARD TINASHE Number B226237B was under my supervision. I also confirm that he has attended all of the scheduled meetings with me and has met all of the conditions that I have set for him as the supervisor. It is my professional

opinion that the dissertation is of such high quality that it should be submitted with my name attached as the supervisor. I hereby unconditionally release the student to submit his dissertation for marking.

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Dedication

This study is dedicated to my wife (Tendai), my three boys (Tinoteda, Tinashe and Tinomuda), and my mother (Chiedza) for their unfailing love, encouragement, and support that have sustained me throughout my life. Thank you, family, now, always and forever.

Abstract

The study's ultimate goal was to create a strategic agility principles-driven framework to foster digital innovation in Zimbabwe's tertiary sports. The concurrent mixed research design served as the framework for data collection, analysis, and interpretation in this study. This study, based on the pragmatic school of thought, allowed the researcher to triangulate multiple approaches. The qualitative strand was the primary data collection method, with semi-structured interviews serving as the tool, Questionnaires were used to triangulate interview data. The NVivo version 12 was used to organize qualitative data into themes, whereas SPSS version 21 was used for parametric testing and descriptive statistical analysis. According to the findings, Zimbabwe's tertiary industry suffered from a lack of digital innovation hence, fails to promote adaptability and nimbleness, as seen by a failure to adhere to worldwide best practices in the use of digital technology in Zimbabwean tertiary sports management and technical operations. Furthermore, most executive members lack a solid foundational understanding of digital innovation aimed at improving organizational management and athlete performance, indicating a gap in tertiary sports management engagement initiatives as evidenced by a failure to adhere to global best practices in the use of digital technology in the management and technical functions of Zimbabwean tertiary sport. In addition, most executive members lack a deep foundational grasp of digital innovation to boost organizational management and athlete performance, indicating a gap in tertiary sports management engagement initiatives. The study recommends: the establishment of training programs and workshops to improve digital literacy and awareness among stakeholders in the sports industry. Create a clear and comprehensive digital strategy, and supporting regulatory framework, that has a road map for integrating digital innovation across all management and technical departments. The proper allocation of financial and human resources is critical for the successful implementation of digital innovation initiatives. Tertiary sports organizations should actively participate in digital innovation efforts by providing guidance, allocating resources to support digital initiatives, and empowering employees to actively contribute to digital innovation. This creates an environment that encourages idea generation and strengthens the relationship between leadership and employees. Finally, the research claims that if all of the suggested recommendations are correctly followed, Zimbabwean tertiary sports organizations may incorporate digital innovation into their management and technical operations, hence contributing to performance improvement.

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List of Abbreviations and Symbols

AI – Artificial Intelligence

AR – Augmented Reality

CEO – Chief Executive Officer

EIF – Emergency Industry Fund

IT – Internet Technology

ML – Machine Learning

SPSS – Statistical Package for Social Science

SRC – Sports and Recreation Commission

VAR – Video Assistance Referee

VR – Virtual Reality

Glossary

Adapted framework- is a type of engagement method that is adapted to each stakeholder's specific needs and objectives.

Agility- the ability of an organization to respond rapidly and effectively to changing conditions, challenges, and opportunities.

Cronbach Alpha –is a measure of internal consistency, that is how closely related a set of items are as a group

Digital innovation- the application of technology and digital solutions to improve many parts of the sports sector.

Engagement- refers to the feeling of connection between persons that fosters trust and discussion. It is a state in which both parties actively engage in dialogue, idea exchange, and mutual learning.

Environmental dynamism – The external environment, which includes competition, market trends, and regulatory changes,

Stakeholder- any individual, group, or organization that has an interest in the success and/or failure of a business.

Strategic- Making and implementing plans and actions to attain long-term objectives.

Sustainability- is the ability to meet current needs without affecting future generations' ability to meet their own needs.

CHAPTER 1: THE PROBLEM AND ITS SETTING

1.1 INTRODUCTION

The study seeks to use strategic agility principles to build a framework that can stimulate digital transformation in Zimbabwean Tertiary sports. This chapter gives an overview of the study's background, Statement of the problem, Significance of the problem, Research questions, Research objectives, and Study delimitations. It also includes an outline of the study.

1.2 BACKGROUND OF THE STUDY

Over several decades, the economic trend in the sports industry has been digital change. Zimbabwe Tertiary Sports and its stakeholders, including governing bodies, entrepreneurs, enterprises, business start-ups, and innovation centres, have underutilized the potential of digital transformation to create employment, attract investment, and increase competitiveness as shown in the competitive industry. This fits well with observations from Zvapano, (2017) who concluded that universities in Zimbabwe face a challenge in identifying and implementing the most relevant and impactful strategic principles that can effectively drive and stimulate digital innovation. Recognizing that Zimbabwe Tertiary Sports may continue to lag behind other industries in digital innovation, the researcher is motivated to look into how strategic agility principles might potentially promote and increase digital innovation in the country. This fits well with observations from Hemme et al. (2018) who posit that competitive advantages in industries are frequently achieved through innovation based on strategic agility concepts. As a direct consequence, it is clear that strategy and innovation are inextricably intertwined in industry. Tjonndal, (2021), purports that some sports industries throughout the world are transitioning, prolonging, and developing due to creative digital approaches. Rexhepi et al. (2018) aver that the most fundamental reason for such a shift is because, in recent decades, numerous sports organizations have shifted from being largely organized by amateurs to having a profit-oriented administrative style. Accordingly, managers position their organizations for competitive advantage through strategic thinking (Funk et al. 2016). Funk et al. (2016) as in Hemme et al. (2018) explained that the capacity to plan and carry out successful growth plans is increasingly important for an organization's success since it enables the extension and exploitation of strategic advantages and the formulation of ground-breaking choices. This is consistent with findings by Bason (2017), who claims that for organizations to function profitably and effectively in the current

business and service sectors, they must develop strategies to achieve their goals and successfully compete in the market.

However, literature has shown that there is a lack of empirical research specifically focusing on the application of strategic agility principles in the context of digital innovation in tertiary sports. Most of the existing literature primarily focuses on strategic agility in general organizational settings Arbusa et.al 2017; Appelbaum et al. 2017; Tabe and Nematizadeh 2017; Nejatian et.al 2018; Liang 2018; Teece et al 2016 or specific industries and innovation in the sports domain Ratten 2019; Rexhepi et al. 2018 and Tjonndal, 2021). Evidence in the literature has shown that the sports industry domain has embraced the use of data analytics to enhance performance, player assessment, and team strategies (Ratten 2019). By collecting and analyzing vast amounts of data on player statistics, game metrics, and training regimens, these sports have created a digital environment that leverages data-driven decision-making. This approach has accelerated the development of sophisticated technologies and algorithms for monitoring and analyzing sports performance (Rexhepi et al. 2018). Tertiary sports have been described as late adopters of various technological advancements, including wearable devices, video analysis tools, and virtual reality (VR) training platforms (Raji and Hassan 2021; Sassen, & Azizi,2017). Moreover, the specific application and impact in tertiary sports are not well understood (Zvapano, 2017). Therefore, exploring the unique characteristics and challenges of digital innovation in the context of tertiary sports would contribute to a better understanding of how strategic agility principles can be effectively utilized. The study has also identified a gap in the Zimbabwe tertiary sport's organizational readiness and capabilities. Therefore, understanding the key factors that influence an organization's ability to adopt and leverage strategic agility principles can provide valuable insights for tertiary sports institutions. On the practical gaps, the literature has shown a lack of standardized measurement and evaluation frameworks to assess the outcomes and impact of using strategic agility principles for digital innovation in tertiary sports. Developing appropriate metrics and evaluation methods would enable researchers and practitioners to assess the effectiveness and success of such initiatives. This reflects a lack of stakeholder engagement in the process of using strategic agility principles for digital innovation in tertiary sports.

Zimbabwe's Tertiary Sport requires the promotion of digital innovation and strategy more than ever. This is against the backdrop of Zimbabwe's Tertiary sports experiencing athletic performance stagnation and having little influence on other sports industries. The primary research issue is that Zimbabwean tertiary sports are not aggressive in establishing and utilizing their brands through digital innovation. This fits well with observations from Zvapano, (2017) who concluded that universities in Zimbabwe face a challenge in identifying and implementing the most relevant and impactful strategic principles that can effectively drive and stimulate digital innovation. This explains why they are now having difficulty putting up barriers

to competition from other sports institutions developing strong brands that provide long-term client loyalty and a competitive advantage. Consequently, it has become clear that a new paradigm is urgently required to set new records in the tertiary sport. To address such difficulties, Zimbabwe Tertiary Sport must design digital innovation plans and undertake strategic agility management of innovation processes. Against this backdrop, this research aims to develop strategic agility principles to stimulate digital innovation in Zimbabwe's Tertiary sports. This can help the management of Zimbabwean tertiary sports create and expand their competitive advantage, as well as enhance their revenue-generating capacity for long-term economic success.

1.3 STATEMENT OF THE PROBLEM

Despite the recognized importance of digital innovation in achieving sustainable competitive advantages and business growth, many tertiary sports organizations struggle to effectively stimulate and implement innovative ideas. Tertiary sports have shown limited impact on other sports industries and stagnation in athletic performance can be as a result of a lack of digital innovation, which has positioned them adrift when it comes to competitive advantage. Tertiary sport in Zimbabwe has also experienced some challenges in erecting barriers to competition from other sports institutions, as well as having weak brands showing a significant lack of long-term consumer loyalty and a competitive edge. According to the literature, digital innovation in sports has been thoroughly explored, but little has been done about tertiary sports. This underscores the fact that nothing has been done to inform digital innovation in tertiary sports. Consequently, Zimbabwe Tertiary Sport faces a challenge in identifying and implementing the most relevant and impactful strategic agility principles that can effectively drive and stimulate digital innovation. The study can bridge this gap by identifying agility principles that can stimulate digital innovation and further generate and implement innovative ideas that meet customer needs and achieve business objectives. Therefore, this research is aimed at developing strategic agility principles to stimulate digital innovation in Zimbabwe's Tertiary sports.

1.4 SIGNIFICANCE OF THE STUDY

Several stakeholders may benefit from the current research on using strategic agility principles to stimulate digital innovation in Zimbabwe's Tertiary Sports. Once the results of the study are disseminated, the researcher hopes that the Zimbabwe Tertiary Sports managers might gain valuable insights and recommendations on how to strategically approach digital innovation. Exploring the unique characteristics and challenges of digital innovation in the context of tertiary sports would contribute to a better understanding of how strategic agility principles can be effectively utilized. The digital development teams and entrepreneurs within tertiary sports may benefit from standardized measurement and evaluation

frameworks to assess the outcomes and impact of using strategic agility principles for digital innovation in tertiary sports. Furthermore, the study's findings may enable managers to direct their resources toward crucial strategies that strengthen their innovation skills in creative goods and services, resulting in improved shared value and sustainable development. The research can provide entrepreneurs and start-ups with valuable insights on how to approach innovation from early stages, identify market opportunities, align innovation, and build an innovation-focused culture. Despite the existence of several pieces of research on strategic agility principles to stimulate digital innovation, a complete literature on strategic innovation in tertiary sports appears to be lacking. Therefore, this research can contribute to the body of knowledge on digital innovation and strategic management. Moreover, researchers can build upon existing knowledge and further investigate specific aspects or develop new theories and frameworks related to strategic agility principles for digital innovation.

1.5 RESEARCH QUESTIONS

1.5.1 Primary Research Question

How can strategic agility principles be used to stimulate digital innovation in Zimbabwe's Tertiary sports?

1.5.2 Subsidiary Research Questions:

1. How far have Zimbabwean Tertiary sports organizations embraced the use of digital innovation in their management and technical functions?

2. What factors are responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations?

3. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their management and technical performance?

4. What strategic agility principles-driven framework can be developed to stimulate digital innovation in Zimbabwe's Tertiary sport?

1.6 RESEARCH OBJECTIVES

1.6.1 Purpose of the Study

To use strategic agility principles to stimulate digital innovation in Zimbabwe's Tertiary sports.

1.6.2 Specific Research Objective:

1. To ascertain the levels at which Zimbabwean Tertiary sports organizations have embraced the use of digital innovation in their management and technical functions.

2. To establish factors responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations.

3. To determine the impact of the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations on their management and technical performance.

4. Develop a strategic agility principles-driven framework that can stimulate digital innovation in Zimbabwe's Tertiary sport.

1.7 DELIMITATIONS OF THE STUDY

The study seeks to develop strategic agility principles that can stimulate to boost digital innovation in Zimbabwe's Tertiary sports. Beliefs and ideas developed by key stakeholders in tertiary sports will be utilized to inform frameworks that connect with tertiary sports digital creation. These stakeholders include the Ministry of Youth, Sport, Art and Recreation, the Sports and Recreation Commission, the media, and sponsors in addition to athletes, fans, and officials from tertiary institutions.

1.8 STUDY OUTLINE

The dissertation is divided into six chapters as follows:

Chapter 1: The problem and its setting: The first chapter introduced the study and provided a summary of the background, research statement, and objectives.

Chapter 2: Literature review: The second chapter was devoted to a review of the literature. The chapter was split into four sections: conceptualization, theoretical framework, methodological review, and theme literature.

Chapter 3 Research Methodology: The third chapter went through the methodology and procedures that were used in this study.

Chapter 4: Results: The fourth chapter provides and analyzes the research findings by the study's objectives.

Chapter 5: Discussion: The fifth chapter fully explores and discusses the empirical findings.

Chapter 6: Conclusions and Recommendations: Chapter Six summarises the whole research process and concludes each of the study objectives based on real-time information**.**

1.9 CHAPTER SUMMARY

The study's background research revealed that Zimbabwe does not have any well-established understanding of innovation in the strategic management of tertiary sports. Organizations are left without a clear road map for using strategic concepts to continuously produce and implement creative ideas that satisfy consumer wants and accomplish corporate goals due to this issue. The chapter also discusses how the study was motivated by several Sports Innovation Framework, which helps organizations recognize and seize opportunities for innovation. The chapter has also established the parameters on which this study is built and laid out the study chapters.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The chapter examines and summarizes the existing body of research aiming to establish the context, identify gaps, and highlight the significance of the study within the broader scholarly discourse. This chapter is divided into key concepts namely, conceptualization, theoretical frameworks, and methodological and thematic review.

2.2 CONCEPTUALIZATION

2.2.1 Concept of Strategic Agility in Sport

Contemporary sports organizations encounter a multitude of challenges arising from unforeseen and rapid uncertainties in the ever-evolving workplace environment (Arici and Gok, 2023). These challenges stem from notable shifts in technological advancements, evolving customer preferences, globalization, crisis management, corporate innovation, and creativity (Abuanzeha et al., 2022). Recognizing the significance of adapting to these developments, organizations have come to appreciate the need to enhance competitiveness and ensure effective survival amid fierce competition in today's robust marketplace (Desta, 2018).

In response to the rapid changes in workplace environments, the concept of agility has emerged, prompting organizations to reassess and redesign their key goals, objectives, strategies, and policies. This enables them to respond flexibly and effectively to meet the diverse requirements of the business environment (Al-Romeedy, 2019; Shakhour et al., 2021). The notion of "strategic agility" has become a crucial factor in achieving long-term success and sustainability for organizations operating across the private and public sectors (Tariq et al., 2022). Strategic agility embodies the ability to adapt and thrive in a constantly evolving landscape, ensuring organizations remain agile and resilient in the face of challenges and opportunities. Furthermore, the pursuit of organizational excellence and job development is a key focus of strategic agility, resulting in a significant competitive advantage (Zhanget et al., 2023). Presently, sports organizations strive to deliver value to multiple stakeholders, including customers, in a more efficient and timely manner compared to traditional approaches. By embracing strategic agility, sports organizations can enhance their ability to meet the evolving needs and expectations of stakeholders, thereby gaining a competitive edge in the market.

Agile organizations are characterized by their ability to innovate and adopt new, effective methods to respond to changes as they arise. They develop organizational strategies and policies utilizing available resources while leveraging the organization's capacity and capabilities to manage and navigate these changes (Zhang et al., 2023). Agility entails promptly addressing changes in customer preferences and needs, coupled with the flexibility to establish strategic alliances rapidly to meet those demands. Findings from research indicate that knowledge management capabilities have a positive impact on organizational agility and overall performance, highlighting the importance of effectively managing and leveraging knowledge within agile organizations (Al-Rhomedy, 2019).

In light of the direct influence of knowledge management on organizational agility and performance outcomes, recent research has put forth an integrative model to explore this relationship (Hansenet et al., 2020). The emerging trends in discussing the correlation between knowledge management and various dimensions, including knowledge infrastructure and organizational agility, have provided crucial insights and support in this domain. Organizational agility is recognized as a significant prerequisite for knowledge management and overall organizational performance. However, it is worth noting that in the context of Jordan's tertiary education sector, particularly in higher education institutions, knowledge management may not directly contribute to competitiveness.

Research findings suggest that strategic agility is closely tied to the capabilities of organizations to deliver innovative and valuable products at the right time and competitive prices (Clauss et al., 2019). Hansen et al. (2020) emphasize the importance of strategic agility in attaining a sustainable competitive advantage. Given the fast-paced and highly competitive nature of contemporary business environments (Kohtamaki et al., 2020), modern organizations are encouraged to cultivate their capacity to adapt and thrive amidst ongoing change. This is achieved by nurturing a talented and skilled workforce equipped with the necessary capabilities to navigate continuous transformation (Tariq et al., 2022). In the same vein, Zahoor et al. (2022) state that strategic agility is an effective approach that can help organizations succeed in the marketplace, and agile organizations easily adapt to unexpected changes in the business environment, particularly in today's global market competition, which provides a variety of services through innovation and change management.

Zhang et al. (2023) recognized some essential factors of strategic agility that have been addressed in numerous studies that measure customers' and competitors' knowledge to determine market competency in higher-sensitivity scenarios, which can be used to achieve strategic agility. This factor's components are vision clarity, capability understanding, strategic objective selection, shared responsibility, and strategic agility-driven actions.

According to Shamout et al. (2022), having a clear vision and a deep understanding of key underlying capabilities is crucial for achieving a powerful combination of accelerated strategic agility and necessary stability in businesses. Failing to comprehend its core capabilities can hinder an organization's ability to pursue opportunities and gain a competitive advantage. On the other hand, an organization's ability to define and select strategic objectives plays a vital role in enabling it to adapt and enhance its core strategic capabilities while effectively coordinating existing and future opportunities (Onyeaghala et al., 2019; Shamout et al., 2022). Furthermore, the metric of shared responsibility evaluates the organization's customer relationships and their contribution to value creation.

To conceive strategic agility in the context of Zimbabwean sports organizations, with a focus on fostering digital innovation in tertiary sports organizations. Several fundamental ideas and tactics can be implemented. There is a need to incorporate digital technologies such as sports management software, data analytics tools, social media platforms, and health monitoring devices into sports program operations and management to improve efficiency, decision-making, and member engagement.

In the context of this study, strategic agility in sports can be defined as the ability of Zimbabwean tertiary sports organizations to continuously adapt and change in response to changing sports dynamics and technology advancements. Zimbabwean tertiary organizations should swiftly and effectively adjust their strategies and operations to reflect evolving trends and opportunities while remaining faithful to their overarching mission and objectives. In the context of digital innovation, strategic agility requires sports organizations to scan the environment to develop digital technologies, capabilities, and sports models that can create competitive advantages. Zimbabwe tertiary organizations should also be willing to experiment, learn, and refine new digital initiatives using data analytics, automation, or other technology tools to improve various aspects of the organization's operations, such as talent development, performance monitoring, fan engagement, marketing, sponsorship, e-sport integration, and overall sports efficiency. Overall, the concept of strategic agility is vital for tertiary sports organizations in Zimbabwe to stay ahead

and relevant in the quickly changing digital age, where their ability to disrupt, execute, and turn around will decide their ability to deliver better sports value and performance.

2.2.3 Digital innovation in sports

Kingsley (2020) defines digital innovation in sports as applying technology and digital solutions to improve many parts of the sports sector. It has transformed how sports are played, viewed, and controlled, resulting in substantial advances and improvements across the board (Roda, 2019). The use of data analytics and performance tracking is an important aspect of digital sports innovation. Seshadri et al. (2019) stated that modern sensors, wearables, and monitoring devices can collect real-time data on athletes' performance, such as speed, heart rate, and biomechanics. This data enables coaches, trainers, and athletes to analyze and optimize performance, discover areas for improvement, and make sound decisions. In addition, digital technology has altered the viewing experience for sports enthusiasts. With the rise of streaming platforms and smartphone apps, fans can now watch sports and contests from anywhere at any time. VR and augmented reality (AR) have also provided immersive viewing experiences, making fans feel part of the action (Kingsley, 2020). Furthermore, digital innovation has transformed sports marketing and fan involvement. According to Faria et al. (2022), social media platforms allow athletes, teams, and fans to communicate directly, resulting in increased fan contact and engagement. Digital marketing tactics, such as targeted advertising and personalized content, have allowed sports organizations to reach a larger audience and provide more individualized experiences.

The rise of digital innovation in sports has been impressive. Initially, simple technology such as video replay and scoreboards laid the groundwork for more advanced solutions. Scott (2021) argues that as technology advanced, the advent of instant replay systems, goal-line technology, and video assistance referee (VAR) systems significantly increased officiating accuracy and reduced human error. Furthermore, the advancement of mobile applications and wearable devices has enabled athletes to track their performance, monitor their health, and obtain tailored training plans (Scott, 2021). These advancements have considerably improved athletes' capacity to train efficiently while lowering their risk of injury. Hinings et al. (2018) suggest that incorporating artificial intelligence (AI) and machine learning (ML) into sports has accelerated digital innovation. AI-powered computers can process massive volumes of data to generate insights, forecast events, and create game strategies. ML algorithms can also detect patterns and trends to help with talent scouting and player recruitment.

In a nutshell, digital innovation in sports has radically revolutionized the sector, altering the way sports are played, experienced, and administered. Digital technology is transforming sports through performance tracking, data analytics, immersive watching experiences, and fan participation. There is also a need for adaptability and flexibility, empowerment and experimentation, taking risks, and lifelong learning. In this study, digital innovation in sports is conceptualized as the proactive use of digital technologies, processes, and strategies to transform and improve many elements of sports management and operations in Zimbabwe's higher institutions. Integrating these strategies—data analytics and performance tracking, fan engagement and digital marketing, health monitoring and wearable technologies, sport management technologies, virtual training and simulation, and, finally, e-sports and online competitions—and creating a strong framework to initiate and drive transformative digital advancement in the sports sector, improve organizational effectiveness, and remain competitive in today's digital age.

2.3 THEORETICAL FRAMEWORK

2.3.1 Model of Strategic Agility in Small and Medium-Sized Sport Enterprises

Esazadeh et al. (2020) provided a theoretical framework for identifying the essential aspects that lead to strategic agility in small and medium-sized sports firms. According to Esazadeh et al. (2020), strategic agility is an organization's ability to successfully adapt to changes in its external environment and make swift decisions to capitalize on new possibilities or respond to obstacles. Small and medium-sized sports firms require strategic agility to survive and succeed in a highly competitive field. According to the proposed model, six major elements influence strategic agility in these types of businesses. The suggested model identifies the following factors:

a) **Leadership** - Effective leadership has been regarded as a key factor in increasing strategic agility. Leaders must have a clear vision, be proactive in spotting opportunities and risks, and be able to inspire and persuade their staff to adopt change.
b) **Organizational culture**- a supportive and adaptable organizational culture is critical for strategic agility. This includes building an innovative culture, encouraging risk-taking, and increasing internal collaboration and communication.
c) **Knowledge management** - Strategic agility relies on effective knowledge management and utilization. Small and medium-sized sports businesses must have mechanisms in place to collect, exchange, and harness knowledge from internal and external sources.

d) **Resource allocation:** The allocation of resources, both financial and human, has an important role in defining an organization's ability to respond rapidly to changing conditions. Small and medium-sized sports enterprises require adaptable resource allocation systems to ensure that resources can be allocated to new opportunities or areas of need.

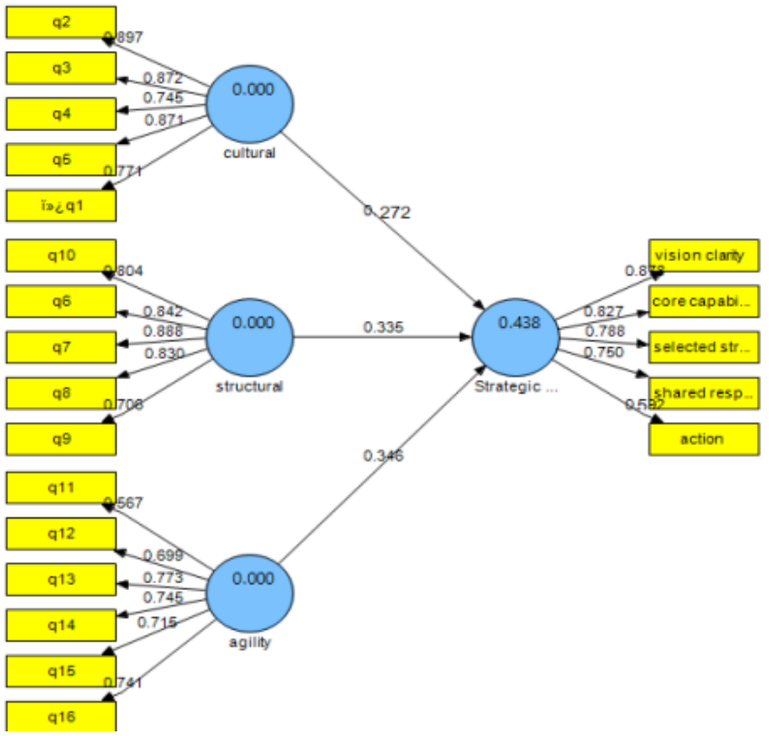
e) **Strategic partnership -** Collaborating with external partners, such as sponsors, suppliers, or other sports-related businesses, can improve strategic agility. A strategic alliance can give resources, experience, and networks to help small and medium-sized sports businesses adapt and respond to change more successfully.

f) **Environmental dynamism** – The external environment, which includes competition, market trends, and regulatory changes, has a considerable impact on the strategic agility of small and medium-sized sports organizations. According to the notion, understanding and monitoring the external environment is critical for detecting new opportunities and risks.

The suggested model proposes that these six aspects interact and impact one another, ultimately shaping the strategic agility of small and medium-sized sports businesses. The purpose of this study is to determine how these characteristics influence strategic agility and innovation in Zimbabwean tertiary sports.

Figure 2.1:

A Proposed Model of Factors Influencing Strategic Agility in Small and Medium-Sized Sports Enterprises



Adapted from: Esazadeh et al. (2020)

Esazadeh et al. (2020) developed a model that illustrates the interplay between organizational culture, structure, and agility in shaping strategic agility. Key components of strategic agility include a clear vision, core capabilities, selected strategic goals, shared responsibility, and corresponding actions. Organizational culture, on the other hand, represents the collective beliefs and values that a group has developed to address external challenges while maintaining internal cohesion (Seyed et al., 2017). In the context of small and medium-sized sports organizations, organizational culture emerges as a significant factor influencing strategic agility and can exert a profound impact on the achievement of organizational objectives.

An agile organization can be expected if the organization's culture is based on hard work, effort, and agile collaboration. Due to their inexperience, new firms face several problems. Small and medium-sized sports enterprises can overcome organizational culture challenges. Furthermore, organizational structure is essential for strategic adaptability. Esazadeh et al. (2020) developed a model that proved that small sports

businesses cannot attain strategic agility unless their organizational structure is adaptable. Such businesses have a flexible and open structure that is not hampered by administrative bureaucracy or fixed structures. Furthermore, organizational agility is one factor that influences strategic agility. Small and medium-sized sports organizations need organizational agility to make swift decisions. To achieve strategic agility in Zimbabwe's tertiary sports sector, it is crucial to have a clear understanding and effective management of the components that influence it, including organizational culture, organizational structure, and strategic agility. This is particularly important for small and medium-sized sports businesses commonly referred to as start-ups. Creating and maintaining strategic agility in the era of innovation economics poses a significant challenge for many companies and organizations. Therefore, organizations must continuously monitor and assess their strategic agility as a dynamic capability, as highlighted by Abuanzeha et al. (2022). Adequate definition, training, and assessment of these components are essential for fostering strategic agility in the context of Zimbabwe's tertiary sports sector.

2.2 Digital Transformation Model

The sports industry is experiencing substantial upheaval as a result of digital change. The advancement of digital technology has a significant role in the transformation of many different industries. It encourages a company to rethink the structure, functioning, and communication of its business model. In addition to utilizing digital technology, digital transformation is customer-driven and requires organizational changes (Bloomberg, 2018; Peter, 2017). Furthermore, the challenges confronting most firms, including but not limited to the sports industry, have been exacerbated by volatile market conditions. Many of them have embraced digital transformation in some form or another and seen it progress to varied levels of maturity. Some businesses, however, continue to struggle with creating and implementing digital agendas because they are unable to examine the setup, approach, and topics. Forrester's corporate digital maturity model 4.0 identifies four critical factors—culture, technology, organization, and insight—that influence a business's ability to digitally transition and attain maturity. A company's digital transformation strategy includes numerous competencies. Using the digital maturity model to identify gaps in each step of the transition, the organization may determine which critical areas to focus on and where to begin. According to Westerman (2014), implementing digital maturity requires a gradual shift in an organization's procedures, people, and others.

This framework is used to analyze an organization's present degree of digital maturity and to help create a future roadmap. This paradigm is also useful for understanding the organization's current state and anticipated future changes. The aforementioned allows the organization to define its digital transformation

goal and evaluate its effectiveness. It can map the organization's projects based on the maturity of the transformation and help understand the organization's efforts. It is understood that digital maturity and digital transformation are not synonymous; instead, digital maturity serves as the framework for digital transformation.

Figure 2.2:

Foresster 's Digital Maturity Model

Adapted from: Westerman (2014)

Four essential Factors

Culture- The culture dimension emphasizes the need to cultivate a digital culture inside a company. It entails adopting an attitude of creativity, collaboration, and flexibility. This component emphasizes the need to encourage experimentation, learning, and the willingness to accept change. Creating a digital culture encourages employees to be receptive to new ideas, take chances, and lead the digital revolution.

Organization- The organizational component focuses on the structures and capabilities required to support digital efforts. It entails redesigning the organizational structure, roles, and duties to promote agility and collaboration. This component also includes forming cross-functional teams and devising adaptable processes to promote successful communication and decision-making. The organization dimension focuses on creating a clear digital vision and aligning it with overarching corporate objectives. It entails defining the organization's digital goals, identifying target consumer segments, and determining

how digital transformation might provide value. This factor underlines the necessity of strategic planning and decision-making in successfully guiding digital endeavors.

Technology- The technological dimension acknowledges the importance of digital tools and infrastructure in facilitating digital transformation. It entails selecting and implementing the right technology stack to meet business objectives. This dimension also includes integrating and using emerging technologies like cloud computing, artificial intelligence, and data analytics to boost innovation and improve user experiences. Furthermore, investment in digital talent, training, and technologies is necessary to properly support digital projects. This component also emphasizes the importance of ongoing evaluation and resource reallocation to keep the organization's digital capabilities competitive.

Insights- The insights dimension focuses on using data and analytics to generate important insights into customer behaviour, market trends, and business performance. It entails efficiently gathering, evaluating, and exploiting data to support decision-making and drive focused digital strategies. This dimension underlines the value of a data-driven approach to optimizing operations, personalizing experiences, and identifying growth prospects.

As a result, this model provides guiding principles for Zimbabwean tertiary sports to analyze their growth. This framework explains how it can help tertiary sports organizations navigate the complexities of the digital environment and ensure that all critical elements are considered while going digital. Instead of aiming to assess the maturity of the digital transformation, this study investigates the variables that sports companies should consider before embarking on a digital transition.

The Forester Digital Maturity Model can help Zimbabwean tertiary sports institutions achieve digital technical and management transformation by offering a formal framework for analyzing present digital capabilities and finding growth opportunities. The approach allows Zimbabwean sports organizations to analyze their present digital maturity across a variety of areas, including strategy, culture, technology, data, and procedures. According to this approach, the Zimbabwean sports organizations have the following gaps: A lack of a cohesive digital strategy. They have partially adapted to contemporary technology; nonetheless, certain technology infrastructures are out of date, limiting their ability to respond to new digital trends. This concept would enable Zimbabwean enterprises to create a digital transformation plan outlining specific actions and projects to enhance their digital capabilities. This can help to guarantee that resources are used efficiently and that progress is constantly assessed and evaluated.

2.3 METHODOLOGICAL REVIEW

Table 2.1:

Methodological Review

Researcher	Country	Purpose	Models or Theoretical Framework Upon Which Study is Grounded	Sample Type and Size	Methodology Approach	Methodological Gap
Abuanzeh et al. (2022).	Jordan.	To examine the role of strategic agility to achieve competitiveness by analysing the mediating effect of knowledge management construct in Jordanian's public higher education institutions.	Resource-based view theory	Academics working in public higher education institutions in Jordan.	Quantitative based approach	The study was conducted in Jordan's public higher education institutions; the findings may differ in the Zimbabwean tertiary sports organization because the focus is on how strategic agility principles influence digital innovation, whereas the study focused on mediating the effect of knowledge management. The study focuses on public higher education, whereas this study includes both private and public institutions; thus, the findings may change, as may the strategic methods

						and managerial activities.
Zahoor et al. (2022).	Finland.	To explore the critical role of business-to-business (B2B) high-tech small and medium-sized enterprises (SMEs) dynamic capabilities and strategic agility during the COVID-19 pandemic.	Dynamic capabilities view.	Five Finnish high-technology SMEs. Accordingly, five informants holding critical managerial positions (two sales directors, two vice presidents, and a chief operating officer) were drawn as the sample.	Exploratory case studies of 5 Finnish high-tech SMEs.	This study focused on a small number of cases from Finland. Thus, future studies should examine B2B SMEs from other developed markets and developing economies to understand the role of different types of capabilities in enabling SMEs to mitigate the impact of COVID-19.

Clauss et al. (2019).	Germany.	To empirically examine the extent to which firm-level strategic agility predicts the adoption of three (value creation, value capture and value proposition) types of BMIs.	Dynamic capabilities view.	A total of 432 German firms in the electronics industry were drawn as the sample for the study.	In-person data collection approaches that involve interviews.	The sector-specific data selection in this study with the identified sample firms being from the electronics industry. As this industry lies in the high-technological sector; one might expect higher innovation rates than in other industries (such as the service sector). Hence, further research should test the generalizability of findings made in this study in other industries. Similarly, the study made use of data collected in 2014, while insightful, may not be up to date given the dynamic nature of the electronics industry. The study focuses on the electronics industry in Germany, thus the stakeholder engagement structure may not be applicable in Zimbabwe's tertiary sports.
Zhang et al. (2023).	China.	To investigate how organizational agility affects digital transformation and dynamic capabilities	Dynamic capabilities view	Data were collected from 313 government employees in	Survey research method.	The study focused on government employees only, there is a need to also include private sector employees. The findings cannot reflect Zimbabwe's tertiary sport because the study was

		as antecedents and factors impacting organizational agility.		government departments.		conducted using a method that does not account for the researcher's perspective or the hidden complexities of the managerial and technical environment. Furthermore, the findings may not apply to Zimbabwean tertiary sports because the varsity's economic, sociological, and technological elements are different.
Arici and Gok (2023).	Turkey.	To examine the intensity of environmental turbulence from the strategic agility and innovativeness perspective.	Dynamic Capabilities Theory	A total of 285 top managers from medium-high or high technology firms that were located in a techno park were included as the sample.	The survey method complemented the questionnaire as the primary data collection method.	Environmental Turbulence (ET) factors were not handled with different intensities. Considering the dynamic structure of firms, the -sub-dimension factors affecting the ET of each sector may have different intensities.
Sadjak et al. (2022).	Poland.	To identify and assess the state of knowledge in the field of using and	?	A total of 30 scientific journals were used in the	Systematic literature review (SLR).	Boundaries between technologies are sometimes difficult to define as they are blurred, for instance, the differences between advanced data analytics

		supporting Industry 4.0 technologies for the development of companies' strategic agility.		exploratory research.		solutions, BI solutions and advanced IT systems. This results from two aspects – first, there are no complex and general definitions, second, the application possibilities are still developing, depending on industry characteristics.
Andersen (2019).	Denmark.	To investigate strategic agility and business model innovation practices in the digital transformation context.	Strategic Agility Model	The sample was made up of 15 companies and represented by their top managers.	Case study design	The study was also confined to one nationality, namely Denmark, which does present its limitations concerning more general recommendations across companies of different nationalities. The study was also restricted to one nationality, Denmark, which limits its ability to make more general suggestions across organizations of different countries. The study focused on Zimbabwe, a single country with a variety of environmental circumstances. As a result, it may be difficult to conclude Zimbabwe's tertiary sports contexts. The study also concentrated on Denmark, a wealthy country, and did not cover a broader range, such as professional sports groups in Africa. As a result, because the

						findings were intended to be generalized to the sample rather than the population, they do not accurately reflect digital innovation in Zimbabwean tertiary sports.
Hamdan et al. (2020).	Palestine.	To identify the reality of the application of strategic agility in the Palestinian civil organizations in the Gaza Strip.	Strategic agility.	A total of 343 workers in charitable societies operating in the Gaza Strip of all kinds (local and international) made up the size of the sample for this study.	An analytical descriptive approach and the questionnaire were used as a main tool for collecting data.	The research was only confined to NGOs in the Gaza Strip, the generalizability of the findings could be inevitable as a result of differences in operating environments for charitable organizations.
Mata et al. (2023).	Portugal.	To explore the role of potential and realized absorptive capacity on project success	Complexity theory.	A sample size of 285 personnel from five	Quantitative research method.	Research data were gathered from Portuguese project-based IT organizations. The outcome might have been different if the information had been

		through both the mediating roles of strategic agility and the moderating role of project complexity.		small to medium IT companies in Portugal was used for data collection purposes.		gathered from other organization domains in Portugal. The sample size used can also be considered as a limitation. Due to the Covid-19 pandemic, the data collected from 285 respondents may be considered relatively small.
Malufu et al. (2016).	Zimbabwe.	To determine the factors that influence the adoption of e-learning by lecturers at universities in Bulawayo, Zimbabwe.		A total of 65 respondents were selected through convenience sampling from the three universities in Bulawayo to be respondents in this research.	Quantitative approach.	The survey only included three universities in Bulawayo. The sample may be deemed relatively small given the number of tertiary institutions in the country and the fact that the environment and sample are completely different and therefore are of limited relevance to the current study.

2.4 THEMATIC LITERATURE REVIEW

2.4.1 Innovation in Sport

Sports organizations are always adapting, renewing, and developing themselves through new and innovative concepts. The numerous innovation tactics used by sports organizations fundamentally alter how we play, perceive, and organize sports. In other words, modern sport is driven by strategy and innovation. Strategy can be defined as a set of measures taken by managers to position a business for competitive advantage (Al-Romeedy 2019). In sports organizations, competitive advantages are frequently achieved through innovation. In this way, strategy and innovation are inextricably interwoven in sports. Strategic breakthroughs in modern sports include the creation of the race-runner bike and the use of the fiberglass pole in Olympic high jumping (Arici and Gok, 2023). Another example of strategic innovation is the growing application of new technologies in sports, such as sensor monitoring in martial arts officiating (Herren and Wolfe, 2021).

The demand for sport-specific innovation and strategy may be stronger than ever. Tertiary sports are currently dealing with long-term difficulties such as social exclusion and prejudice based on gender, sexual orientation, race, or ethnicity. A major concern in top and Olympic sports is the plateauing of athletic performance and world records, which have peaked in numerous sports in recent years (Mahlangu and Makwasha, 2023). In this case, planning and creativity may be required to achieve new record-breaking achievements (Shakhour et al., 2021). To tackle and overcome such difficulties, sports organizations and federations must design innovation strategies and apply strategic innovation management methods. While innovation may be the answer to long-term issues in modern sports, strategy, and strategic management relate to the managerial process of determining the sequence of actions required for sports innovation to succeed (Sajdak et al., 2022).

While innovation research has advanced significantly in recent decades, there is little empirical study on strategy, innovation, and entrepreneurship in tertiary sports (Malufu et al., 2016). Despite recent increases in sports innovation research, the field remains underserved. The same is true for strategy research in sports management (Mata et al., 2023). Strategy is important to all organizational functioning; hence it is perplexing why this area of study has received so little attention. Reviews of the innovation literature have limited the attention to corporate and public sector institutions, excluding tertiary sports from their scope.

This is bad for at least two reasons. First, it limits our understanding of the importance of innovation in sports strategic management. Sport is an important aspect of modern society.

Excluding this context limits our knowledge of innovation as a phenomenon, its causes, and its consequences. Second, little scholarly knowledge has been synthesized to guide initiatives to foster innovation in sports through strategy and strategic management. Although research on sports innovation has increased over the previous decade, the findings are dispersed across many journals and communities and have not been linked effectively. In other words, there is a scarcity of integrated understanding of innovation and strategy in the sports context.

2.4.2 Agile Innovation

The proactive side of agility is mostly about innovation, especially the one capable of molding and creating new markets: disruptive innovation. Small businesses are widely acknowledged as the primary source of disruptive innovations, and they appear to be best positioned to demonstrate a high level of proactive agility (Schmitt and Muyoya, 2020). As we have seen, this level of agility is now required to sustain growth in today's rapidly changing business climate. Companies are typically very agile in their early years, but the growth that occurs as a result of success gradually erodes the nimbleness of youth. A fundamental topic in the research is to explain why giant corporations, despite their significant resources, frequently fail to develop substantial breakthroughs (Shakhour, 2021).

Zahoor et al. (2022) compile a list of probable tactics for promoting radical innovation in large enterprises. These tactics might be thought of as visible characteristics of proactively agile large enterprises. Zahoor and colleagues ranked these tactics from the simplest to adopt but least successful to the most complicated to carry out but yielding the best results:

- Make breakthrough innovation a top strategic and cultural objective.
- Hire more creative and imaginative individuals.
- Develop informal project labs within the regular structure.
- Create "idea markets" within your organization.
- Form an "ambidextrous organization."
- Experiment with acquisitions, joint ventures, and alliances with other creative organizations.
- Engage in corporate ventures.
- Set up a corporate venture capital fund.
- Participate in the "emerging industry fund" (EIF).

Al-Romeedy (2019) emphasizes the importance of using agile solutions in innovation management in a world where knowledge is increasingly scattered and diverse in complexity. Arici and Gok (2023) propose that innovation must be handled based on differences, such as the information sought. They found three strategies: luring, foraging, and experiencing.

The attracting strategy seeks explicit and codified knowledge using two approaches: "focused attracting" and "broad attracting." Balboni et al. (2019) use the term "focused attracting" to refer to open innovation, which has been widely explored. In this case, the expertise sought is highly defined, and firms such as Incentive or Nine Sigma can act as go-betweens for seeking companies and a network of potential solution providers. In contrast, in the case of "broad attracting," the knowledge sought is not clearly defined. The innovation seeker typically offers general research ideas to promote the flow of new knowledge and attract possible problem solvers at a minimal cost.

Foraying is a lightweight and adaptable method for accessing knowledge embedded in a local context. It entails sending out "scouts" on learning expeditions to gather local dependent knowledge, decontextualize it, and then return it in codified form to their firm. This strategy is based on the exact identification of knowledge holders and skilled scouting teams (Arici and Gok, 2023).

The experiencing technique is based on complete immersion in the local context where "the knowledge to be sought is neither definable nor easily observable, but locally rooted and complex, and very different from the firm's core knowledge base." This existential information requires brick-and-mortar places where "scouts" can take the time to learn by doing, gather the puzzled and distributed knowledge, and uproot it from the norms, behaviour, and beliefs that hold it (Arici and Gok, 2023).

2.4.3 Universities' Contribution to Innovative Initiatives

Making use of information developed at universities has an important role in encouraging radical ideas that benefit society and aid in the resolution of major societal issues such as climate change (Mahlangu and Makwasha, 2023). However, making use of knowledge is frequently considered retrograde, and it is against this backdrop that Herren and Wolfe (2021) propose allocating additional resources to this project. Universities have implemented a variety of measures, including providing entrepreneurship instruction, establishing technology transfer offices, promoting university spin-outs, and doing collaborative research with industry.

Universities contribute to creative projects in a variety of ways, some of which are consciously and selectively developed by universities themselves or through policy design for that function (Desta, 2018). Herren and Wolfe (2021) identified academic start-ups, academic patenting, and education initiatives for innovation and entrepreneurship, as well as several policy measures financing collaboration between universities and the private and public sectors, as platforms perceived to have a direct impact on innovation processes. Other academic pursuits, on the other hand, are more opaque and have the potential to have an indirect impact on the economy's aptitude and capacity to innovate. Meanwhile, university graduates, their skills, and participation in scientific or expert seminars, scientific publications, a variety of informal communication platforms, and networks between academics, industry, and the general public have all been identified as activities that may have a significant impact on the trajectories of innovative initiatives (Balboni et al., 2019). However, Zhang et al. (2023) believe that these innovations influence innovations by accident or coincidence rather than through a planned, collaborative, and focused structure of knowledge interactions for innovation.

Dynamic demographic patterns, society, and, in particular, technology, as illustrated by external demands, reflect the need for universities to express their need for transformation (Malufu et al., 2016), from the previous approach in which they were perceived as isolated knowledge generators to an integrated one in which they were perceived to be part of a regional innovation ecosystem (Schmitt and Muyoya, 2020). For example, general models that incorporate the triple helix model propose integrating the three primary agents—business, government, and universities—in the formation of regional innovation ecosystems (Herren and Wolfe, 2021). Other models based on this one have been proposed and tailored to the unique characteristics of certain areas. Meanwhile, Schmitt and Muyoya contend that these models fail to account for the constraints of implementing them at regional institutions in areas lacking an entrepreneurial

basis and enough government links. However, such regions may have cultural, environmental, historical, and touristic resources that can be used to help universities overcome regional economic challenges and foster a public-private partnership based on social innovation (Balboni et al., 2019).

The Saco Crea Project, launched by the Colombian government in the municipality of Juan de Acosta, is an example of how social innovation may help to promote a zone's potential. According to Sajdak et al. (2022), the Colombian government implemented the MUSA Association initiative, which involves 20 women from the community producing household items from various home interior stores in Barranquilla, leveraging their knowledge and textile skills. Although such projects are few and infrequent, this scenario highlights the importance of developing an innovative approach for the regional university (Hansen et al., 2020). Such a model should envision the university as a facilitator of collaborative trust-building efforts with local government, as well as the establishment of an entrepreneurial foundation through active engagement of the university community that capitalizes on the region's social potential and allows both national and global agents to encounter adequate conditions for their integration into the region (Kohtamaki et al., 2020). Furthermore, such a model should have a bottom-up focus, which means that community members from the region, with the help of the university, should be the ones to generate innovations that allow several actors to be summoned to the illustration of high-impact solutions that cement confidence in local governments or lay the groundwork for the establishment of an entrepreneurial pillar.

2.4.4 Digital Transformation as the Catalyst for Organizational Change

Digital transformation is described as a dramatic shift in the business processes, products, and organizational structure of a corporation that accompanies its endeavors to make use of digital technologies (Tariq et al., 2022). The transition of a set of business processes from digital technologies to organizational change is directly linked to digital transformation. Many contemporary managers are concerned with digital transformation (Zahoor et al., 2022).

The literature on digital innovation differentiates between digitization and digitalization: digitization is the replacement of an analogue artefact with a digital component, whereas digitalization refers to the use of digital technologies to create value or change a business model

(Zhang et al., 2023). The latter digital transformation expands on the relationship between technology and fundamental organizational change, addressing difficulties and providing practical solutions (Herren and Wolfe, 2021).

Furthermore, research on digital transformation primarily emphasizes its inputs and outputs by focusing on mapping casual relationships between broad categories of digital technology and specific organizational change, between organizational structure and management leadership (Zhang et al., 2023). For example, the relationship between specific digital technologies and organizational change has focused on the impact of big data capabilities on business models (Balboni et al.). Other literature focuses on areas of the organization that must be considered in terms of changes during digital transformation (Haider and Kayani, 2020), managerial challenges associated with digital transformation, and factors influencing digital transformation success, such as organizational competencies and organizational culture (Zhang et al., 2023). These have contributed significantly to the development of an early body of knowledge on digital transformation, as well as increased awareness of some of the benefits and challenges it presents.

According to Zhang et al. (2023), digital transformation is expected to be an iterative process that begins with management skill building to raise awareness of digital potential through learning and cognitive renewal. Furthermore, Tariq et al. (2022) discovered that organizational structure and resources are modified to enable the realization of innovation during the digital transformation process. Furthermore, Shamout et al. (2022) argue that strategic change is a continual process of interaction between change and renewal, which leads to the discovery of new opportunities. This shows that the interaction and link between technology and the business environment might facilitate digital transformation and concurrently pressure enterprises towards ongoing transformation.

New digital tools, such as analytic frameworks and machine learning, are progressively performing cognitive activities that were traditionally performed by knowledge workers (Tariq et al., 2022). While digital transformation in the sense of process automation predominantly affected manufacturing workers, digital technologies are now having a more profound impact on other job profiles than ever before, possibly disrupting employment and society. The

relationship between technology and the business environment is frequently stressed as a source of opportunities and resources that allow businesses to develop and change their value offerings, hence initiating and enabling digital transformation (Sadjak et al., 2022).

In terms of challenges, Clauss et al. (2019) argue that digital transformation begins with the disruption and destruction of established business models, value chains, and organizational processes, and they propose to explain how this can be achieved through the emergence of new digital technologies and associated actors in an organization's environment. The digital business and technology environments are likely to change as new actors enter the market with digital innovations that create and promote new relationships and business conditions that are often difficult for incumbent companies to respond to, which is commonly referred to as digital disruption (Desta, 2018). It is also argued that consumer behaviours, preferences, and expectations are becoming more dynamic as a result of the rapid diffusion of digital consumer products and services and that organizations must engage in digital transformation to improve and increase their ability to respond through digital solutions (Haider and Kayani 2020).

2.4.5 Determinants of Agility

The determinants of agility, also known as pillars, offer a simple tool that can be employed by a wide range of enterprises while also laying the groundwork for agility. The interdependence of these aspects is clear, but the distinctions between each sector may be obscured due to the interconnection of the concepts. Though these determinants are given as independent and isolated components of a very abstract concept, there are numerous interactions between them, and the features offered do not have a single or exact definition. Instead, these pillars act as a framework within which a corporation might operate. Each determinant is determined by its essential nature in relation to agility. Subcomponents of each pillar, or ideas that fit inside the broader concept, may exist and will be treated similarly.

2.4.5.1 Culture of Innovation

This pillar of agility is essential because it represents a specific organizational mindset. A culture of innovation in an organization extends beyond a willingness to adapt. A culture of innovation requires that an organization regularly evaluate its existing systems, structures, procedures, teams, and other organizational components. There is an urgent need to discover a new and improved manner of performing a function or providing a service (Herren and Wolfe, 2021). While a desire for innovation is a catalyst for change, a culture of innovation is an

underlying, organization-wide approach to exploiting changes in the external environment to better shape the organization's internal environment. It is the ability to do both new and old things in novel ways (Zhang et al., 2023). It contrasts with change in that an organization can be both innovative and agile. Despite this, there are clear links and dependencies between innovation, competitiveness, and agility. Innovation is critical, particularly in areas that are changing rapidly. More importantly, a culture of innovation, rather than innovation itself, is critical to organizational success and adaptability.

A culture of innovation is defined by opportunity-seeking and overall attentiveness. The organization as a whole must promote an internal motivation to uncover new chances for innovation, be proactive in searching them out, and take action on those opportunities. Furthermore, firms must be prepared to seize new chances by pursuing competitive positions in the market, adopting an openness to new experiences, and maintaining innovation. This feature is most closely aligned with Miles and Snow's prospector strategy (Shakhour et al., 2021). The prospector strategy is commonly associated with innovation and adapting to changing external situations. As a result, using this benchmark to evaluate an organization might be beneficial. One may argue that in today's market, rapid development and change are becoming the norm. As a result, the prospector-type strategy becomes more viable and applicable to the organization's effectiveness and responsiveness.

Despite the evident support for the prospector-type strategy, Arici and Gok (2023) believe that the analyzer typology may still be more appropriate for some firms in specific, more stable sectors. In connection with this strategy type, innovation is neither overlooked nor prioritized. Instead, innovation occurs at the margins (Al-Taweel and Al-Hawary, 2020). An examination of these typologies of opportunity-seeking and awareness reveals several key characteristics. The innovation culture is inextricably linked to both the external environment and the company's overarching strategic goals. Second, depending on the industry and the relevant external environment, both prospector and analyzer typologies can effectively enhance organizational agility (Clauss et al., 2019). This reinforces the idea that agility is not uniform or formulaic. Abuanzeha et al. (2022) refer to it as a "living" notion that adapts to different surroundings, organizations, and business requirements. Evidence demonstrates that firms that

prioritize innovation through opportunity seeking and, in many cases, the prospector strategy are better positioned to successfully implement additional pillars of agility.

2.4.5.2 Empowerment

Empowerment is a pillar that explains the interaction between leadership and employees, including authority, autonomy, and other aspects. It denotes the extent to which the powers of organizational leaders and lower-level employees are allocated, separated, or shared. The most fundamental component of this pillar is the concept of centralization and decentralization, as well as the determination of decision-making power (Kabrilyants et al., 2021).

Organizations having devolved powers are nimbler and better able to respond to their external environment. When lower-level employees have some authority, they can respond to the environment more quickly and accurately. The exception to this general norm is that, particularly during times of crisis, an upper-level decision is taken sooner and can be implemented more quickly. This enables a faster response to an imminent threat or significant problem that might otherwise take too long for lower-level decision-makers to address. Nonetheless, the trade-off between response efficacy (usually raised by decentralization) and response timeliness (sometimes increased by centralization) is such that decentralization is frequently more effective (Hansen et al., 2020). The benefits and consequences of lower-level decision-making on employees, as well as the organization's overall responsiveness, result in enhanced performance and employee morale due to autonomy. These benefits outweigh the time costs involved with delegating authority to a level much lower than that of higher management (Haider and Kayani, 2020). Thus, this aspect of agility appears to contradict what one might expect: decentralization and delegation of decision-making power, rather than centralization, often boost an organization's overall agility.

2.4.5.3 Strategic Direction

An organization's vision determines its general orientation. However, devotion to the goal and a focus on achieving the intended ideal state are essential for its success. Having a vision does not necessarily increase an organization's agility. Having an organizational vision is common. Instead, communication, commitment to, and concentration on attaining the goal distinguish agile (and usually more successful) firms from stagnant, less successful ones (Balboni et al.

2019). Many organizations have set ambitious goals but have failed to see them through to completion. The contrary is also true. Organizations that fail frequently create visions that are ineffectual, uninteresting, or nonexistent. A "laser-sharp" concentration is a defining attribute of successful vision. Having a distinct and unambiguous focus gives a company a clear strategic path. Clarity of direction enables an organization to respond in an agile and effective manner by developing a guiding framework for decisions based on external events. That is, responding to the external environment is done in a concentrated manner, consistent with the company's previously determined strategic orientation (Kohtamaki et al., 2020).

Leadership is the principal messenger and enforcer of an organization's commitment to its vision. Even in dispersed organizations, leadership wields significant authority and decision-making power (Al-Taweel and Al-Hawary, 2021). Agile firms often make decisions based on three criteria: speed, execution of the decision, and rapid response. According to Kabrilyants et al. (2021), decentralized decision-making frequently comes at the expense of speed. Instead, accuracy and employee responsiveness improve. This results in an overall improvement in the timeliness of the decision's successful implementation. Employees who actively participate in decision-making are less likely to be resistant to changes that the decision may necessitate. Organizations that can strike a balance between decentralization and speed can better respond to their external environment and be more agile overall. Furthermore, leadership is ultimately responsible for seeing a decision through. Leaders provide advice and set the standards for how an organization operates and performs. Rapid response to a choice is linked to a leader's capacity to convey a decision and mobilize a response. That is, they can quickly promote employee activity while limiting any potential pushback to a decision. By accomplishing this, executives prepare an organization for market responsiveness, setting an agile precedent from the top of the firm hierarchy down.

Regardless of the importance of vision and leadership in its implementation, the chief executive officer (CEO) is also in charge of mundane ordinary business. Agile organizations understand when to respond and when not to respond. Leaders, particularly during times of crisis, tend to overcompensate for external changes. In some cases, leadership must decide that continuing with business as usual is the best course of action. Responding to a change does not always necessitate dramatic decisions with significant consequences. Instead, executives must be concerned with the correctness of their organizations' responses.

2.4.5.4 Change Management

Change management is directly linked to an organization's vision. Change management is defined as managing an organization's transition to a desired future state. This could be the transcendent state established by the vision, or a future state with a narrower scope and scale. An agile organization can successfully manage change and be aware of the nature of changes taking place within and around it (Balboni et al., 2019). Change is unavoidable. This proposed pillar is useful since it assumes that change will occur and have a substantial impact on companies. Change management, like the other pillars of agility, is adaptable and customized to each organization. According to Zhang et al. (2023), change will affect different organizations in different ways, and the demands for change that an organization experiences may be specific to the organization or industry. For example, the concept of change has undergone significant evolution. Change was once thought to be a physical phenomenon that required only one response to mediate environmental change. Today, however, change is an open-ended process that is dramatic, complex, personal, and continual (Tariq et al., 2022). Change management is a guide that helps businesses become more agile in their approach to change. There are significant connections between change management and decision-making. Decisions are key enablers of change. When appropriate, organizational decisions result in direct internal changes. Beyond this, decisions made outside of an organization also cause change. Changes in the external environment might be caused by consumer decisions and preferences, government policy or regulation decisions, or other factors. This highlights the fluid and interconnected aspect of agility. One pillar influences another. Similarly, impairments in one area are likely to affect others (Balboni et al., 2019).

Change management in agile organizations is divided into three stages: perceiving change, implementing change, and testing change (Zahoor et al., 2013). The ability of an organization to detect prospective internal and external changes is referred to as perceiving the change. It also emphasizes the speed and precision of change perception. Implementing change is the process of transforming a decision into practical outcomes. Agile organizations see changes implemented faster, more smoothly, and more accurately than less agile firms.

Managers must be aware of the pillars of decision-making (vision), team-building, and organizational communication for this to occur. For more agile businesses, this level of change management necessitates the ability to balance the many components of several pillars while adhering to the needs of their organization. Variations within a company, as well as the particular circumstances surrounding transformation, contribute to the discrepancies that

businesses encounter. There is no formulaic way to balance the many parts of change management and the accompanying agility pillars to maximize effectiveness (Kabrilyants et al., 2021). As a result, it is difficult for agile businesses to implement change efficiently and effectively. Once a change is implemented, effective change management necessitates testing. The testing change enables continuous improvement. Areas for improvement are identified, further opportunities are highlighted, and knowledge of both the internal and external surroundings is developed, resulting in a better understanding of both forces.

2.4.5.5 Communication

How an organization communicates also influences its overall agility. This variable emphasizes the importance of internal and external communication with stockholders, potential customers, and other market stakeholders (Balboni et al., 2019). As previous pillars have demonstrated, agile businesses must respond to changes while also changing. The change increases the need for communication while simultaneously making effective communication more difficult.

This factor is pretty directly related to vision and leadership responsibilities. Decision-making, leadership functions, and overall leadership effectiveness are only achievable via the numerous communication channels available (Desta, 2018). That is, while a leader may have an idea or make a choice, the decision must be communicated and implemented throughout the organization for it to be significant. Internal communication refers to the channels via which information is shared within an organization. Communication channels exist in three basic directions: top-down, horizontal, and bottom-up. Arguably, the most successful and agile firms can effectively mix and apply these communication approaches, allowing for multi-directional and open communication throughout the organization (Hansen et al., 2020). Top-down communication, which flows from upper-level management down to lower levels of the company, is likely the most prone to restricting an organization's adaptability.

The crisis may entail such limited communication (because the top-down style is constrained by its singularity of direction); yet, effective communication occurs most naturally when the many modes of communication are employed in tandem. Top-down communication was the traditional strategy (Clauss et al., 2019). However, the changing nature of employees, competition, and the general population rendered this way of communication obsolete. Horizontal and bottom-up communication strategies are more successful at promoting organizational agility.

Horizontal communication promotes interdepartmental contacts and exchanges, successfully reducing repetition or overlap between functions (Al-Romeedy, 2019). Bottom-up communication is also important in establishing organizational agility because it can actively engage all levels of the organization, reducing resistance to change, offering differing perspectives, and potentially formulating more effective solutions as proximity to some problems increases.

In addition to formal strategic communication with employees or stakeholders, the firm's informal language can either facilitate or limit growth, and strategic agility is a key component of agility (Balboni et al., 2019). Informal communication within the business helps to clarify the firm's strategic position, make sense of the external environment, and understand the context of various actions.

Team building is a subcategory of corporate communication that is linked to empowerment. Team implementation is often connected with decentralization since teams take on more responsibility for decision-making and operational performance (Abuanzeha et al., 2022). The tendency of an organization to implement or deploy teams, as well as the appearance and functionality of the teams, all have an impact on the organization's overall agility. The value of this pillar lies in the prioritization of team actions for certain tasks. Providing employees with a clear, specified task may not result in an effective response or task accomplishment. Teams, on the other hand, bring a distinct set of viewpoints to a company, influencing performance, communication, and decision-making (Haider and Kayani, 2020). Teams are an excellent way to better engage people and lessen resistance to change.

Agile firms are more likely to develop teams. Like creativity and vision, this part of the team-building pillar reflects an organizational mindset. Teamwork, friendship, and collaboration should be encouraged on both a formal and casual basis. Formalized teams can actively contribute to improving cross-departmental communication and organizational cohesiveness. Organizing teams to fulfil certain roles is an excellent way to improve diversity. Hansen et al. (2020) highlight the benefits of teamwork in terms of achieving higher quality, more thorough, and creative solutions to issues and situations.

While teams may take longer to make a decision, the quality of the decision is significantly higher. Similarly, while conflict may emerge within or between various teams, proper team implementation promotes organizational cohesiveness and improves operational outcomes

(Mata et al., 2023). One persistent condition that must be continually met is the organizational concept that success must be sustained by emphasizing teams rather than tasks. To put it simply, the ends do not justify the means. Though a cliché, the attitude articulated is especially relevant to agile organizations—when the effective implementation of a task becomes the major emphasis, the costs of reaching the goal rise dramatically. According to research, firms that are more committed to the process (namely, the people and teams that are incorporated throughout) deliver more efficient and effective results. Investing in the intermediate steps and the process as a whole results in greater success than in an overtly outcome-oriented organization, and it is also characteristic of firms that embrace the concept of agility (Shakhour et al., 2021).

2.4.5.6 Market Analysis and Response

The market analysis and reaction pillar focuses on a company's specific environment, including its industry and the overall environment. The ultimate purpose of market responsiveness is to facilitate agility, and it is a measure of how a corporation examines its external environment as well as its willingness to employ various instruments to do so efficiently. More specifically, this pillar provides the tools and measurements for external environment analysis, as well as establishing the importance of an organization's ability to properly apply the analysis tools.

While the exact qualities and roles of these tools are not covered in depth in this study, preparing an organization for increasingly agile performance necessitates the use of a variety of external evaluation tools (Tariq et al., 2022). Those organizations that pursue their external landscape as quickly as possible, using the various and numerous means available to them, position themselves for future success and nimbleness in adapting and responding to the external market pressures to which unprepared organizations frequently succumb (Shamout et al., 2022).

This variable aims to show the importance of ties between members of the same industry. Though it appears counterintuitive, growing market demands encourage firms to form ties inside an industry. According to recent studies on the growth of market interactions, extra-organizational ties are becoming increasingly important. According to this concept, agility is not limited to the internal activities of a single firm. Agility is essentially dependent on relationships between and among similar organizations, including competitors within an industry. Competition should not be discredited; rather, organizations should be made aware

that the nature of competition is changing, with cooperation becoming increasingly important (Al-Taweel and Al-Hawary, 2021). This phenomenon is likely best summarized. When this premise is directly applied to the understanding and extension of agile operations, these organizations successfully balance cooperation and competition, achieving competitive harmony within their respective industries, which increases potential market response and thus expands opportunities for long-term success and profitability (Clauss et al., 2021).

2.5 CONCLUSION

Most of the studies were done outside Zimbabwe where the environmental, economic and social factors are different from those of Zimbabwe hence the results may not inform a study in the Zimbabwean set up. The following trends emerged from the literature: Increased utilization of social media channels for sports marketing and fan engagement, use of live streaming technologies to reach a larger audience and make cash. Integration of wearable technologies and fitness tracking apps for monitoring athlete performance, and adoption of online registration systems and platforms for sports events and contests. The literature also revealed practice and theory gaps, such as an inadequate understanding of digital innovation and strategic management, a lack of platforms or initiatives to support collaboration and partnership between Zimbabwean tertiary sports organizations and technology companies, and a lack of awareness and understanding of the potential of digital innovation in tertiary sports. Inadequate investment in digital skills training and capacity building is another need that has developed. Limited digital infrastructure and connectivity impede the widespread use of digital technology.

2.6 CHAPTER SUMMARY

The chapter has provided a thorough review of agility and innovation concepts that the Zimbabwe tertiary Sports can adopt.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter seeks to present the study methodology, including the research design, participants, data-gathering procedures, and data analysis approaches. Additionally, the chapter will show how the validity and reliability of the study findings are reached.

3.2 RESEARCH PURPOSE

The research is intended to explore trends and patterns that could drive innovative digital development. This fits well with observations from Saunders et al. (2023), who claimed that exploratory studies are particularly useful when the topic is not well-known or has not been studied extensively. In the context of identifying strategic agility principles to stimulate digital innovation in Zimbabwe's Tertiary Sports, exploratory study design would involve gathering information and data through engaging in interviews, focus groups, observations, and surveys. Once the data has been collected, the researcher analysed it to identify emerging patterns and trends. Identifying key drivers of digital innovation and developing strategic principles tailored to the local context also made this research interventional (Saunders et al. 2023). Accordingly, based on these drivers, this research ultimately developed a set of possible strategic agility principles that can be applied to stimulate digital innovation in the industry.

3.3 RESEARCH PARADIGM

The major goal of this research was to develop actionable recommendations that address the specific challenges and opportunities to achieve tangible improvements in digital innovation. As a result, the pragmatism paradigm works in tandem with the goals of this research. In support of this narrative, Doldor et al. (2017); Saunders et al. (2023); and Tobi and Kampen (2018) argue that pragmatism is most appropriate since it offers the advantage of utilizing many techniques and paradigms while emphasizing common meanings and achieving coordinated action. This research therefore has applied the positivist and interpretivist approaches. In the context of the positivist approach, the focus would be on testing hypotheses and using empirical data to support findings. This approach would involve collecting quantitative data through surveys and other methods to measure the effectiveness of various strategic principles for digital innovation. In the context of interpretive, the focus would shift to exploring the subjective experiences and perspectives of individuals within the Zimbabwe Tertiary sports market. This approach would involve collecting qualitative data through interviews, focus groups, and other

methods to gain a deeper understanding of the challenges and opportunities facing digital innovation in the market. The goal would be to develop an understanding of the cultural, social, and economic factors that influence innovation in the market, and to identify strategies that are most likely to be effective in this context. Accordingly, Saunders et al. (2023) claimed that combining the insights gained from both paradigms is influenced by the need to compensate for the deficiencies caused by the subjective nature of interpretivism by providing the study with the scientific rigour associated with the objective nature of positivist research. Therefore, this research can develop a more comprehensive understanding of the market and identify strategies that are likely to be effective in stimulating digital innovation and driving growth in Zimbabwe's Tertiary sports.

3.4 APPROACH TO THEORY DEVELOPMENT

The abductive approach to theory development was applied in this research. This was informed by Saunders et al. (2023) who highlighted that a topic about which there is a wealth of information in one context but far less in the context in which one is researching may lend itself to an abductive approach. The abductive approach combines deductive and inductive reasoning. In the context of this research deductive reasoning could involve using existing principles of strategic agility to inform the formulation of a digital innovation framework in a tertiary sports context. Inductive reasoning would then be used to develop the framework for the specific data evidence collected in Zimbabwe Tertiary Sport.

3.5 METHODOLOGICAL CHOICE

This research aims to explore the use of strategic agility principles to stimulate digital innovation in the tertiary sports sector in Zimbabwe. To achieve this aim, a mixed-method approach was utilized. According to Saunders (2023), mixed methods ensure that the research is not limited to a single perspective, but rather incorporates multiple viewpoints. Doldor et al. (2017) argue in support of this approach saying that a mixed approach enables triangulation of data, thereby enhancing the validity and reliability of the research findings. The research will be conducted in two phases qualitative and quantitative. The qualitative phase involved a series of semi-structured interviews with stakeholders in the tertiary sports sector in Zimbabwe. These include representatives from tertiary sports institutions, government agencies, funding institutions, and the private sector. This phase aims to explore the perceptions and experiences of stakeholders in the sector regarding the challenges of digital innovation and the potential for using strategic agility principles.

The quantitative phase involved a survey of stakeholders in the tertiary sports sector in Zimbabwe. This phase aims to collect data on the perceptions and practices of stakeholders about strategic agility and digital innovation. The survey was administered using an online questionnaire, and the sample was drawn from the same pool of participants as the interviewee groups. The survey was designed to capture data on a range of variables, including the perceived challenges of digital innovation, the extent to which strategic agility principles are being utilized, and the relationship between strategic agility and digital innovation outcomes. The survey data was analysed using statistical methods such as regression analysis to identify the relationships between the variables. Saunders (2023), argues that the use of analysis enables the identification of trends and patterns.

3.6 PRIMARY RESEARCH STRATEGY

The concurrent mixed methods research methodology was used in this study. The concurrent mixed method research technique also makes it possible to use the qualitative and quantitative strands simultaneously throughout the research process, retaining the strands' independence during analysis and merging the results for overall interpretation (Plano Clark and Creswell 2014; Creswell 2011). Semi-structured interviews were conducted with different stakeholders in the Zimbabwe Tertiary sports industry, including coaches, athletes, sports administrators, sports marketers, and sponsors. By asking open-ended and targeted questions, the researcher will identify common themes and patterns related to strategic agility principles and digital innovation in the industry. These themes were used to validate data obtained from other sources, such as surveys and document analysis. The researcher used surveys to gather quantitative data on the use of strategic agility principles in the Zimbabwe Tertiary sports industry. The survey was administered to a representative sample of stakeholders in the industry and included items that measure the extent of use of strategic agility principles, the perceived effectiveness of these principles in stimulating digital innovation, and the factors that enable or hinder their implementation. By applying a concurrent research strategy, the researcher can triangulate and cross-check data obtained from different interviews and survey sources, enhancing the validity and reliability of the research findings. Additionally, a concurrent research strategy can enable the researcher to gain a more holistic view of the Zimbabwe Tertiary sport.

3.7 TIME HORIZONS

The study adopted a cross-sectional design. This strategy is used to capture a snapshot of the current state of agility principles and digital innovation in Zimbabwe's Tertiary Sport. Cross-sectional studies were chosen because they are appropriate for projects completed for academic

courses with limited time and resources. The cross-sectional strategy is backed by Collis and Hussey (2014), who point out that it makes excellent use of a small sample and has the apparent appeal of allowing a result to be reached with a relatively modest expenditure of time, money, and other research resources. Participants in this study were recruited from a population with the capacity to provide pertinent data to employ the cross-sectional methodology. After selecting the sample, the researcher will collect the information and assess the connections between innovation and strategies. This cross-sectional research has also been preferred since it may be used to collect preliminary data to plan an advanced investigation in the future.

3.8 CHOOSING RESEARCH PARTICIPANTS

3.8.1 Population

The population consisted of the officials from the Ministry of Sport, Recreation Art and Culture, the Sports and Recreation Commission, the media, and sponsors in addition to athletes, fans, and officials from tertiary institutions. In light of organizational complexities and research time constraints, it is not possible to conduct a census and establish the number of people. Nevertheless, a sample was established in which the data was collected.

3.8.2 Sampling

3.8.2.1 Sampling Procedures

To choose research participants from the qualitative and quantitative strands, the researcher employed purposive and stratified random selection techniques respectively.

The quota sampling strategy was used to select study participants' organizations for the qualitative strand. The strata are the Ministry of Sport, Recreation Art and Culture, the Sports and Recreation Commission, the media, sponsors, athletes, fans, and officials from tertiary institutions. From each quota (number) participants were purposively selected to participate in the study based on their relevance to the research questions and the emergence of the key themes or patterns during data analysis. More importantly, this technique has an advantage in that it targets individuals who hold decision-making positions or have direct involvement in strategic planning for tertiary sports including individuals responsible for funding digital innovation.

In the quantitative strand, the researcher applied the stratified random sampling technique to select the study organizations.

3.8.2.2 Sample Size Determination

To select the participants, the researcher used theoretical sampling methods in the qualitative strand. As the interview progresses, the researcher anticipated continuing to use theoretical sampling methods to identify new participants that can provide new insights or challenge emerging theories. The process only ended after interviews twelve (12) when no new insights were being introduced The online sample size calculator available at https://www.qualtrics.com/blog/calculating-sample -/was utilized to determine the sample size of 155 participants for the quantitative strand of the study with a 5% margin of error and a 95% confidence level. The sample size calculator helped the researcher to ensure that the study had sufficient statistical power and accuracy to draw valid conclusions from the data collected. This research settled for one hundred and fifty-five participants.

3.9 DATA COLLECTION PROCEDURES

3.9.1 Pilot Study

This research designed the research interview guide and questionnaire guide which gather relevant data related to strategic agility principles and digital innovation in Zimbabwe Tertiary Sport. The researcher conducted a pilot test with a small group of participants to ensure the clarity and comprehensibility of the questions. Accordingly, the pilot test was expected to help in revising the guides.

3.9.2 Main Study

3.9.2.1 Semi-Structured Interviews

In the context of interview guides, they included a set of predetermined open-ended questions about study objectives. The guide provided a framework for the interview while allowing for freedom in follow-up questions based on the participants' responses. Face-to-face and virtual interviews with chosen participants. Overall, 12 respondents were questioned, with three (3) conducted remotely and seven (7) conducted in person. The interviews began with developing rapport, stating the study's goal, and getting informed consent. A comfortable and favourable environment was created for exchanging ideas and experiences. With the participants' agreement, the researcher audio-recorded or transcribed the verbatim for subsequent use. The interview continued with the interviewer asking a series of open-ended questions, allowing the

participants to elaborate and respond. As the interviews went on, new insights surfaced and talks became more dependent on them. To elicit additional comprehensive information from the participants, the interviewer conducted follow-up questions. Theoretical saturation occurred when no new information or insights emerged from the interviews. The researcher judged that there was enough data to adequately comprehend the topic and the participants' opinions. At this point, the interviewer completed the interviews and began evaluating the data.

3.9.2.2 Questionnaire Survey

In addition, the researcher used the questionnaire instructions to collect data. These surveys were presented to the 155 selected participants either in person or via an online platform. Participants were given explicit instructions, and their comments were kept anonymous and confidential. Once the surveys were returned, the information was entered into a spreadsheet for subsequent use. During fieldwork, the following issues arose: incomplete or missing responses; respondents skipping certain questions or providing ambiguous answers, making reliable data analysis difficult. There was survey fatigue, in which participants felt fatigued or bored of answering several questions, resulting in diminished attention to detail and perhaps incorrect responses. There was a technology difficulty; the poll was done online, and participants faced technical issues such as a sluggish internet connection and power outages, resulting in a small sample size and potential bias in the results. Finally, respondents gave answers that they thought were socially acceptable rather than their genuine opinions, which influenced the outcomes.

There are issues with the use of Likert scale questions with limited response alternatives. Likert scale questions often provide a restricted number of response possibilities, which may not adequately reflect the complete variety of thoughts or attitudes on the subject. Likert scale questions may have lacked sufficient granularity to detect slight differences in respondents' opinions, resulting in oversimplification and the potential loss of useful information. Another issue with utilizing the Likert scale is that the questions may lack context or background information, causing respondents to provide answers based on preconceptions or limited comprehension of the subject, resulting in skewed or incorrect results. The order in which Likert scale questions are given might influence respondents' responses; for example, main bias may emerge if the first response option is chosen more frequently. Finally, respondents may demonstrate minimal answer variability in Likert scale questions, selecting the same response

option again without regard for the nuances of each topic, reducing the utility of the data acquired.

3.10 DATA ANALYSIS AND PRESENTATION PROCEDURES

Once data was transcribed and captured in the spreadsheet or recorded analysis was the next step. In the qualitative strand, the researcher analysed transcribed data by identifying themes, patterns, and trends. According to Dallas et al. (2017 NVivo version 12 is appropriate for analysing qualitative data and the process was as follows;

Stage 1: Data from interviews was transcribed and entered into NVivo.

Stage 2: Using NVivo, the researcher created codes that reflect relevant topics or themes connected to agile principles and digital innovation. The codes were derived from the research questions.

Stage 3: After the data was organized into themes, nodes in NVivo were constructed to group the codes into groups or themes. Nodes allow you to arrange related codes under specific subjects to help with data analysis and research.

Stage 4 involved querying and exploring data to investigate the linkages and connections between different variables. Text searches were conducted to discover specific information within the dataset. This enabled a more in-depth review of the data, potentially revealing patterns or trends.

Stage 5: was thematic analysis, which discovered themes, patterns, and trends in the data. This assisted in drawing conclusions and providing recommendations based on the findings.

In the quantitative strand, the Statistical Package for Social Sciences (SPSS) version 21 was used for statistical analysis. Here are the stages of how the research on using strategic agility principles to stimulate digital innovation in Zimbabwe Tertiary sports can use SPSS packages to analyze data:

Stage 1: The data from the compatible spreadsheet Excel file was imported into SPSS by accessing the data file associated with the database.

Stage 2: Data was imported into SPSS by opening the data file and linking to it.

Data was cleaned before analysis; it was critical to learn and prepare it by looking for missing values, outliers, and formatting difficulties.

Stage 3: Inferential statistics, which is based on the study objectives and the type of data, SPSS provides a variety of statistical tests such as T-tests, ANOVA, regression analysis, and correlation analysis. The researcher enters the variables of interest into the appropriate statistical test functions or menus in SPSS. The software calculated statistical values such as p-values and confidence ranges. The results were then analyzed and tested for significance, to determine if the research hypothesis was supported or rejected based on the statistical findings.

3.11 QUALITY ASSURANCE AND COMPLIANCE

It was crucial to establish quality assurance and compliance procedures to ensure the research was rigorous, reliable, and ethical.

3.11.1 Validity and Reliability/Trustworthiness Issues

A pilot test was conducted before the actual research study to evaluate and refine the research instruments and procedures. In this test, a small group of participants was selected to complete the study. The purpose was to identify any potential issues or problems with the research design or measurement tools, such as questionnaires or surveys. Feedback from the pilot test helped the researcher make necessary improvements before proceeding with the actual study.

The test-retest reliability was used to measure the consistency of the questionnaire. It involves administering the same test to the same group of participants on two separate occasions. The scores from both administrations are then compared to determine the reliability of the test. If the test produced consistent results over time, it was considered to have high test-retest reliability

The Cronbach's alpha test, also known as internal consistency reliability, is a statistical measure that assesses the reliability of a questionnaire as well. It was calculated to evaluate how closely related a set of items or questions on a scale are to one another. The closer the items are related,

the higher the internal consistency reliability. Cronbach's alpha values range from 0 to 1, with higher values indicating greater internal consistency.

3.11.2 Ethical Considerations

When conducting this investigation, the researcher took into account the following ethical considerations:

1. Consistency with Cultural Norms: Specifically, the researcher requested a letter of introduction from the Bindura University of Science Sports Science Department. Permission to conduct the research was also sought from the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development, the Ministry of Sport, Recreation, Arts and Culture, the Sports and Recreation Commission, and the Zimbabwe Tertiary Institutions Sports. The researcher communicated the research's goal, methods, and conclusions to participants, key stakeholders, and the general public as needed.

2. Informed Consent: Before participating, the researcher verified that participants were properly informed about the research aims, procedures, and any dangers. The researcher also ensured that all participants freely completed consent forms to participate in the study. The consent forms were stored securely so that no one could access them.

3. **Confidentiality:** This study ensures participants' privacy by ensuring that any personal or sensitive information gathered during the research is kept confidential and used exclusively for research reasons. To ensure that no information was disclosed, confidentiality agreements were signed with the researcher. This also includes protecting the data collected from illegal access or disclosure. Confidentiality was maintained by utilizing codes to identify participants during data collection and evaluating the data at the group level.

4. Privacy: This study protected the privacy rights of the participants and organizations. This also entailed securing permission for any direct quotes, photos, or personal information used in publications or presentations, while maintaining anonymity if necessary.

5. Data Integrity: The study ensured the integrity and correctness of the research data by collecting, recording, and evaluating it thoroughly and honestly. The study avoids fabricating or manipulating data to achieve the desired results.

6. Minimize Harm: This researcher thought about reducing any potential physical, psychological, or social harm to participants during the research procedure. The researcher ensured that the research design and procedures put participants' safety and well-being first.

Furthermore, the researcher rejected favouritism or prejudice based on gender, ethnicity, religion, or any other trait.

Data was kept secure by encrypting it, ensuring that no unauthorized parties have access to it. This occurred during data storage and transfer. This data was securely erased. When confidential data was no longer required, it was safely wiped using data wiping technologies that overwrite the data many times, ensuring that it cannot be recovered.

3.12 CHAPTER SUMMARY

The research chapter provided an overview of the research methodology used in the study. It included a description of the research design, data collection methods, data analysis techniques, and the sample population used in the study. The chapter discussed the advantages and limitations of the chosen methodology and the steps taken to ensure the validity and reliability of the results.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

This chapter presents the findings and results of the study. The first part of this chapter describes the profile of the respondents who participated in the study. This includes demographic information such as age, gender, educational background, and experience. The second part of the chapter focuses on the test of normality of the data. This is crucial for determining whether the data collected adheres to the assumptions of normal distribution. The third part of the chapter presents the responses to the research questions raised in Chapter 1. The qualitative data collected through interviews and quantitative data collected through questionnaires are analyzed and synthesized to address the research objectives. This chapter serves as a bridge between the research questions and the subsequent analysis.

4.2 RESPONSE RATE

Table 4.1:

Interview Response Rate

Stakeholder Group	**Target**	**Interviewed**
Ministry of Sports official	Based on theoretical sampling principles	2
Tertiary sports officials	Based on theoretical sampling principles	3
Media personnel	Based on theoretical sampling principles	1
Sponsor	Based on theoretical sampling principles	1
Athletes	Based on theoretical sampling principles	2
Fans	Based on theoretical sampling principles	3
Theoretical Saturation Level		12

The study was based on theoretical sampling procedures and theoretical saturation was reached after twelve (12) interviews.

Table 4.2:

Questionnaire Response Rate

Stakeholder Group	Target	Questionnaire returned	%
Ministry of Sports official	10	7	70
Tertiary sports officials	30	24	80
Media personnel	5	3	60
Athletes	50	47	94
Fans	57	55	96
Sponsor	3	3	100
Total	155	139	87

Based on the data provided in Table 4.2, the research achieved an 87% response rate. This means that all intended respondents, including media personnel, tertiary sports officials, members of the Ministry of Sports, athletes, sponsors, and fans responded to the questionnaire. Accordingly, a high questionnaire response rate has contributed to the quality, validity, and reliability of the research findings ensuring that conclusions are based on accurate and representative data.

4.3 DEMOGRAPHIC DATA

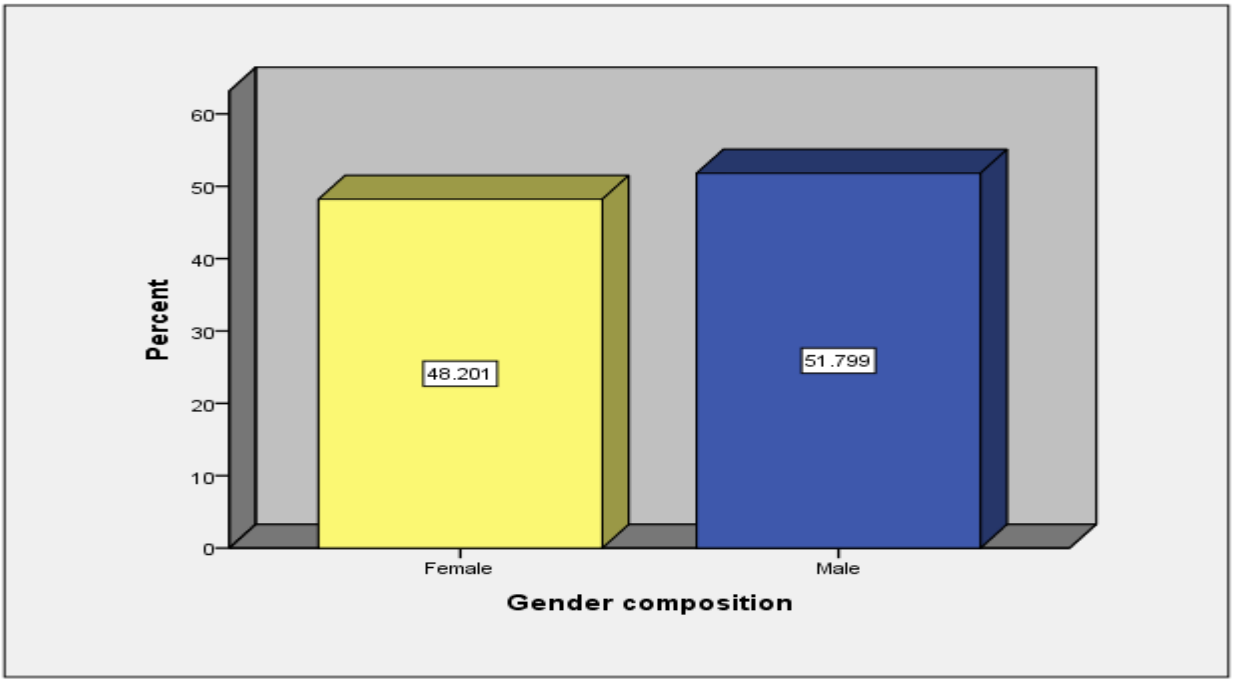
This section included the presentation of demographic data such as gender composition, age of respondents, and professional qualifications. These demographic factors offer valuable insights into understanding the diverse perspectives, experiences, and expertise of the study participants, leading to a more comprehensive and accurate representation of the findings

4.3.1 Gender Composition of Respondents

Questionnaires were used to gather data on the gender composition of the one hundred and thirty-nine (139) questionnaire respondents. SPSS-generated charts were used to present the resultant data as presented in Figure 4.1.

Figure 4.1:

Gender Composition of the Questionnaire Respondents

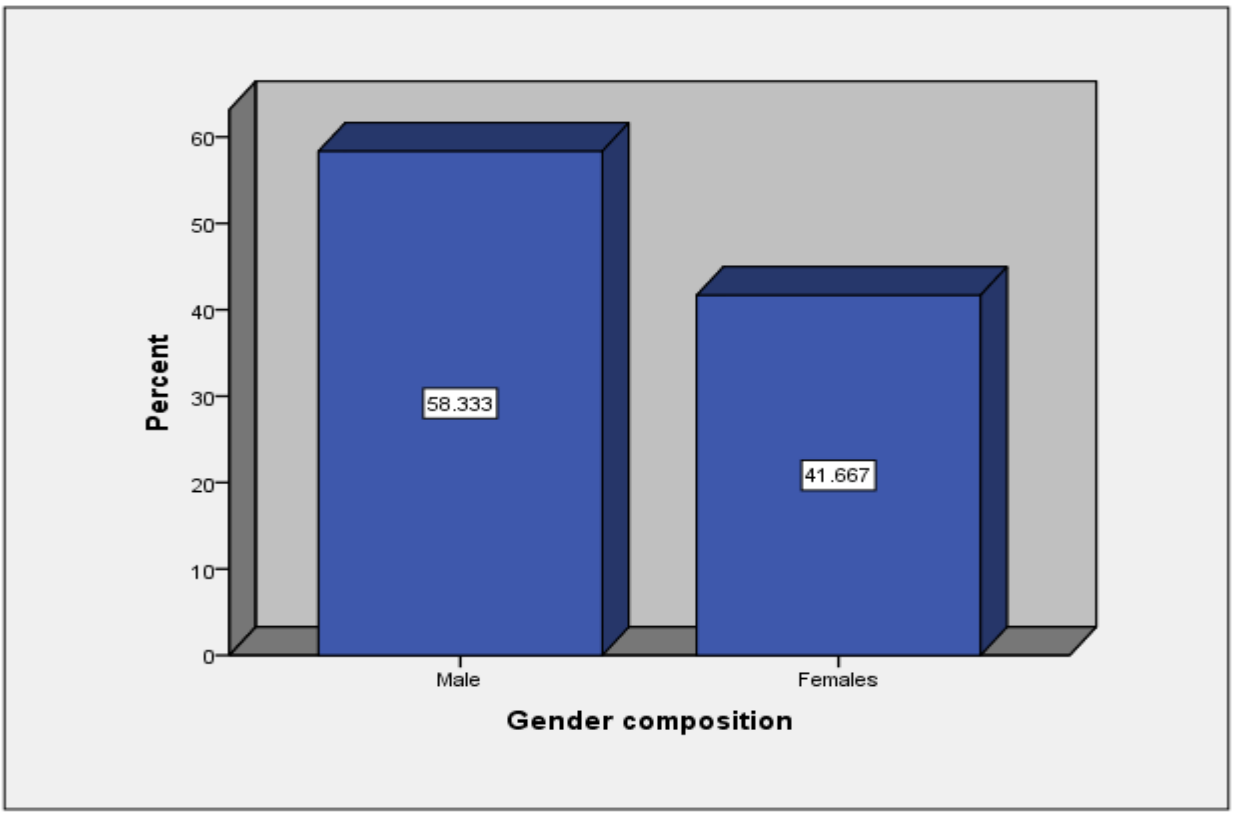


Based on Figure 4.1, there is a slight difference in gender representation with 67 females constituting 48 % and 72 males at 51.8%. The scenario appears to show a slightly higher male representation compared to the female population. To justify this scenario, more males may be involved in sports-related activities or have a higher interest in digital innovation in the specific context of Zimbabwean tertiary sports. Additionally, historical gender stereotypes, societal expectations, or access to resources and opportunities could have played a role in shaping the gender representation in this study.

Interviews were used to gather data on the gender composition of the twelve respondents and SPSS-generated charts were used to present the resultant data as presented in Figure 4.2.

Figure 4.2:

Gender Composition of the Interview Respondents



Based on the data there were 7 males, making up 58.3%, and 5 females, accounting for 41.7% of the participants. This scenario depicts a higher male representation compared to females in the qualitative aspect of the study. It is possible that in the specific context of the study, more males were involved in activities related to digital innovation or had greater participation in the research process. However, efforts were made to ensure gender inclusivity and diversity to obtain a comprehensive and representative understanding of the subject matter. Hence promoting equal participation created a more inclusive and thorough study.

4.3.2 Ages of respondents

Table 4.3 presents data on the age composition of the thirty-nine (139) questionnaire respondents

Table 4.3:

Age Groups of Questionnaire Respondents

Range		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 21	2	1.4	1.4	1.4
	21-30	61	43.9	43.9	45.3
	31-40	34	24.5	24.5	69.8
	41-50	24	17.3	17.3	87.1
	Over 50	18	12.9	12.9	100.0
	Total	139	100.0	100.0	

The data in Table 4.3 shows the number of questionnaire respondents and the corresponding percentages within each age group. It indicates that the highest number of respondents falls within the age group of 21-30 (43.9%) followed by 31-40 (24.5 %) and then 41-50 (17.3 %). The representation of respondents below 21 and over 50 is relatively lower. In this context, it is reasonable to expect that the age groups with the highest representation 21-30, 31-40 and 41-50 are more actively involved in tertiary education, sports, and digital innovation. The higher representation of respondents within these groups suggests that the study captures the perspectives and experiences of individuals who are likely to have relevant insights into the development of strategic principles in the given context. The lower representation of respondents below 21 and over 50 in the data may be influenced by factors such as limited access to tertiary institutions or engagement of older individuals in digital innovation within the specific context of Zimbabwe.

Table 4.4 presents data on the age composition of the twelve (12) respondents

Table 4.4:

Age Groups of Interview Respondents

Range		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	3	25.0	25.0	25.0
	31-40	4	33.3	33.3	58.3
	41-50	4	33.3	33.3	91.7
	51 and above	1	8.3	8.3	100.0
	Total	12	100.0	100.0	

The data in Table 4.4 shows the number of interview respondents and the corresponding percentages within each age group. It indicates that the highest number of respondents falls within the age group of 31-40 (33.3%) joined by 41-50 (33.3 %). The representation of respondents between 21-30 follows with 25% representation and over 51 is relatively lower. The age groups of 31-40 and 41-50 often represent individuals in mid-career or leadership positions who may have significant influence over strategic decision-making in tertiary sport and digital innovation. Their participation in the study is valuable as they provided insights into the challenges, opportunities, and strategies for fostering digital innovation in the given context. Their experiences and perspectives informed the development of strategic agility principles that align with the realities and needs of the target population.

4.3.3 Professional qualification of respondents

Table 4.5 presents data on the professional qualifications of the one hundred and thirty-nine (139) questionnaire respondents

Table 4.5:

Professional Qualification of Questionnaire Réspondents

Qualification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certification	4	2.9	2.9	2.9
	Diploma	63	45.3	45.3	48.2
	Postgraduate	37	25.9	25.9	74.8
	Primary	1	.7	.7	75.5
	Secondary	18	12.9	12.9	88.5
	Undergraduate degree	16	11.5	11.5	100.0
	Total	139	100.0	100.0	

The participants were classified based on their professional qualifications. The largest group of participants consisted of 63 individuals (43.3%) who held a diploma. Thirty-seven participants (25.9%) had completed post-graduate studies. Eighteen participants (12.9%) held a secondary qualification. Seven participants (11.5%) were categorized as having an undergraduate qualification. There were four participants (2.9%) who held certification. The level of qualification ranges from less advanced to highly advanced. These participants were likely possessed with a more comprehensive understanding of the requirement of the study, making their input valuable in exploring the application of agility principles in digital innovation within tertiary sports.

Table 4.6 presents data on the professional qualifications of the twelve (12) questionnaire respondents

Table 4.6:

Professional Qualification of Interview Répondants

Qualification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary	2	16.7	16.7	16.7
	Diploma	5	41.7	41.7	58.3
	Postgraduate	3	25.0	25.0	83.3
	Undergraduate	2	16.7	16.7	100.0
	Total	12	100.0	100.0	

The distribution of qualifications shows a diverse range of expertise among the interviewees, with representation from secondary education 2 (16.7%), diploma holders 5 (41.7%), undergraduate 2 (16.7%), and postgraduate holders 3 (25 %). This diversity provided a well-rounded perspective on the subject matter. Professional qualifications bring unique insights, ideas, and experiences to the research. For instance, those with postgraduate degrees offered a deeper theoretical understanding of agility principles while diploma holders contributed practical implementation within the context of tertiary sports. Furthermore, including individuals with various qualifications made this research more comprehensive with different viewpoints, and strategies being included in the findings. This holistic approach increases the validity and reliability of the research findings.

4.4 Test of Normality of Data

Table 4.7 presents the normality test results.

Table 4.7:

Test of Normality (Quantitative Strand)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Age	.264	139	.000	.831	139	.000

Based on the Shapiro-Wilk output, it seems the significance values for age are both 0.000, which is less than 0.05. This indicates the distribution of ages is not normal. The plausible reason for this is that the population was tertiary sport participants, so their ages were clustered

around 21-30 years. When looking at the ages of college athletes, it's plausible that they might be since most participants would be similar in age to students. Outliers like older coaches participating skewed the results since their ages were much higher than most of the sample. Even though the distribution was not normal, it makes sense that the study findings can still be valid and provide useful insights.

Figure 4.3:

Test of Normality Q-Q

The Q-Q plot shows that there is not a lot of skewing or outliers dragging away from the line. Hence data matches a normal distribution pretty well.

Table 4.8:

Test of normality (Qualitative strand)

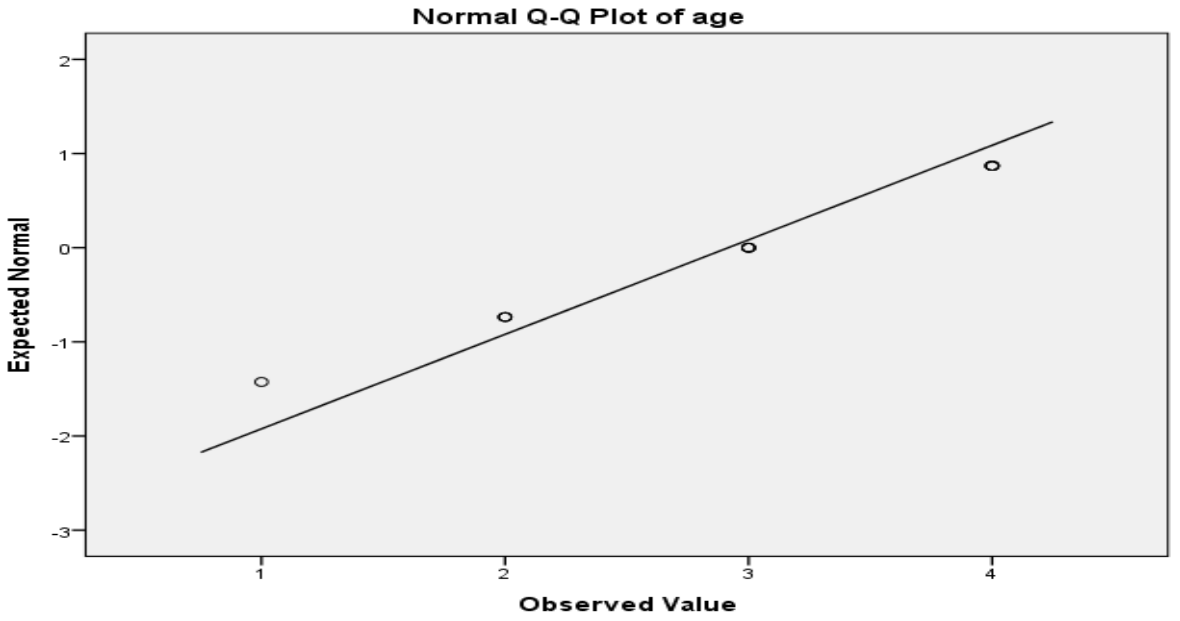
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
age	.200	12	.200*	.877	12	.080

The Shapiro-Wilk test examined the age normalcy of the qualitative strand participants' data. The results demonstrate that the sig value of.080 is more than 0.05, indicating that the age distribution of individuals in this strand is evenly distributed.

Figure 4.4:

Q-Q Plot Test for Normality



The Q-Q plot demonstrates that the data is following the diagonal line and has no evidence of non-linear patterns.

4.5 Analysis and Presentation of Data Linked to Research Questions

4.5.1 Reliability Statistics

The SPSS data analysis software version 21 was utilized in this study to test the reliability of the questionnaire as presented in table 4.9.

Table 4.9:

Cronbach Reliability Statistics

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.989	.988	30

The Cronbach's Alpha was run to test the internal consistency/reliability of a 30-item questionnaire. The Cronbach's Alpha value is .989 and is very close to 1. This shows excellent reliability among all the items. The Alpha based on standardized items is almost the same, at .988. This confirms the reliability and that all the questionnaire items are very closely measuring the same thing. Therefore, with such strong internal consistency, we can conclude that all the questionnaire items were strong and can be used in different settings and produce valid results.

4.5.2 Research Question 1: *How far have Zimbabwean Tertiary sports organizations embraced the use of digital innovation in their management and technical functions?*

The provided information presents the model summary of regression analysis conducted to understand the relationship between the utilization of virtual and augmented reality technologies by tertiary sports managers to connect with fans on various platforms such as mobile apps, social media, and streaming services.

Table 4.10:

Regression Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.922[a]	.851	.849	.549	.851	779.832	1	137	.000	.214

a. Predictors: (Constant), Tertiary sports organizations utilize virtual and augmented reality technologies to increase fan engagement and immersive experience.

b. Dependent Variable: Tertiary sports managers connect with fans on various platforms such as mobile apps, social media, and streaming services.

The correlation coefficient (R) measured the strength and direction of the linear relationship between the predictor variable(s) and the dependent variables. In this case, the value of 0,922 suggests a strong positive correlation. R-square is 0.851 indicating that approximately 85.1 % of the variance in the ability of tertiary sports managers to connect with fans is explained by the

utilization of virtual and augmented reality technologies. The F statistic tests the overall significance of the regression model. The value of 779.832 suggests that the model is statistically significant. A value of 0.000 suggests the model is highly significant. Therefore, the model summary indicates a strong positive relationship between the utilization of virtual and augmented reality technologies by tertiary sports organizations and the ability of tertiary sports managers to connect with fans on various platforms.

The provided information represents the ANOVA table for a regression analysis conducted on the relationship between the utilization of virtual and augmented reality technologies by tertiary sports organizations and the ability of tertiary sports managers to connect with fans on various platforms.

Table 4.11:

ANOVA Table for a Regression Analysis

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	234.807	1	234.807	779.832	.000[b]
	Residual	41.251	137	.301		
	Total	276.058	138			

a. Dependent Variable: Tertiary sports managers connect with fans on various platforms such as mobile apps, social media, and streaming services.

b. Predictors: (Constant), Tertiary sports organizations utilize virtual and augmented reality technologies to increase fan engagement and immersive experience.

The ANOVA Table 4.8 and F statistic 779.832 suggest that the regression model, with the predictor variable of tertiary sports organizations utilizing virtual and augmented reality technologies, is statistically significant. The regression model explains a significant amount of the variation in the ability of tertiary sports managers to connect with fans on various platforms, as evidenced by the large sum of squares and the significant F-statistics. The p-value of 0.000

indicates that the relationship between the predictor variable and the dependent variable is highly unlikely to have occurred by chance.

The provided information presents the coefficient table for a regression analysis conducted on the relationship between the utilization of virtual and augmented reality technologies by tertiary sports organizations and the ability of tertiary sports managers to connect with fans on various platforms such as mobile apps, social media, and streaming services.

Table 4.12:

Coefficients

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.528	.144		-3.667	.000		
	Tertiary sports organizations utilize virtual and augmented reality technologies to increase fan engagement and immersive experience.	1.098	.039	.922	27.925	.000	1.000	1.000

a. Dependent Variable: Tertiary sports managers connect with fans on various platforms such as mobile apps, social media, and streaming services.

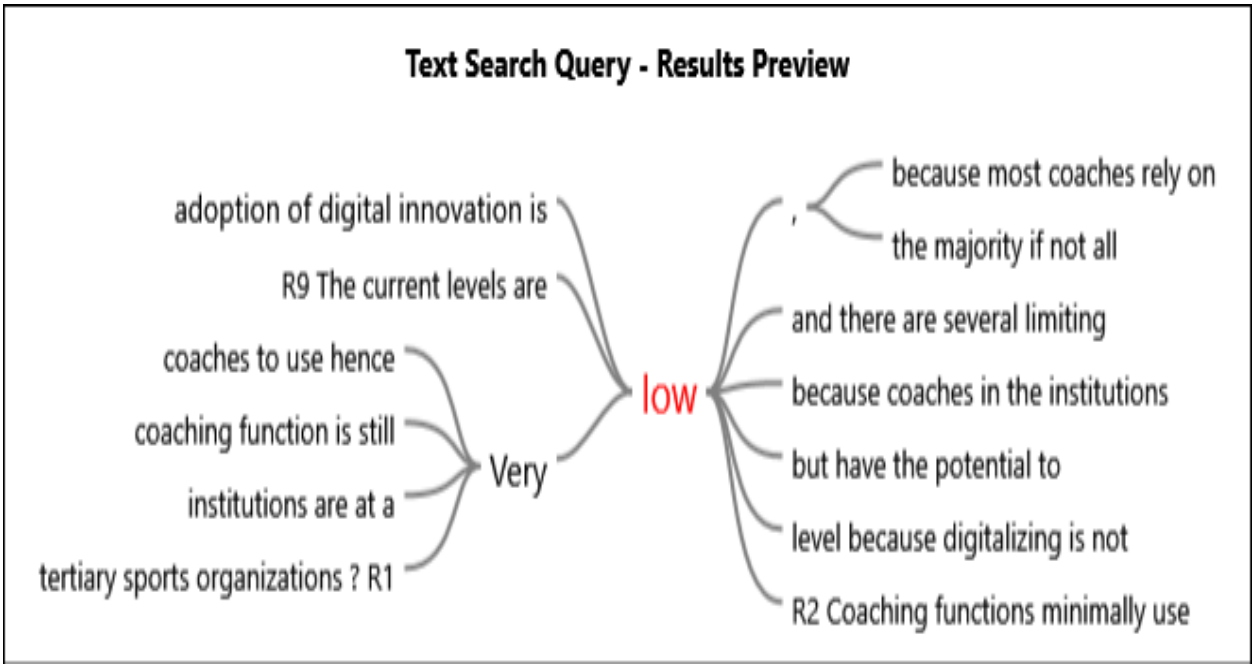
The coefficients table indicates that the utilization of virtual and augmented reality technologies by tertiary sports organizations has a significant and positive effect on the ability of tertiary sports managers to connect with fans on various platforms. The coefficient of 1.098 suggests that as the utilization of these technologies increases, the ability to connect with fans also increases. The standardized coefficient for the predictor variable is 0.922, indicating a strong

positive relationship between the utilization of virtual and augmented reality technologies and the ability of tertiary sports managers to connect with fans. The strong t-statistic of 27.925 and small p-value of 0.000 confirm the statistical significance of the coefficient. However, the collinearity statics show the tolerance (1.000) and VIF (1.000) indicating that there is no multicollinearity issue between the predictor variable and constant term.

In response to the interview inquiries about the current levels of adoption of digital innovation in tertiary sports organizations in Zimbabwe, participants have provided diverse perspectives across various key functions within the sports sector. The coaching function, officiating function, marketing strategies, clean sports promotion tools, and injury management have all been under scrutiny. Each participant has shed light on the unique challenges, opportunities, and advancements in digital innovation within their respective roles, offering a comprehensive view of the evolving landscape of technology in tertiary sports organizations. The results of the interviews were recorded in a Microsoft Excel spreadsheet and then imported into the NVivo 12 Software program for theme analysis. Under the coaching function, the resultant interview responses were analyzed using the text search query.

Figure 4.5:

Text Search Query on The Current Levels of Adoption of Digital Innovation in the Coaching Functions of Zimbabwe Tertiary Sports Organizations



According to the text search query the findings indicate low levels of digital innovation in the coaching function of Zimbabwe's tertiary sports sector are concerning. This was captured by one of the research participants who indicated that:

> *We are still heavily reliant on traditional coaching methods and have not fully embraced technological tools to enhance our coaching techniques*

These responses highlight the urgent need for increased digital integration in coaching practices within Zimbabwe's tertiary sports organizations to enhance the development and performance of athletes.

The interview responses were asked to describe the current levels of adoption of digital innovation in the officiating functions of Zimbabwe tertiary sports organizations. Their responses were organized into themes using the NVivo tool as presented in Figure 4.6.

Figure 4.6:

The Current Levels of Adoption of Digital Innovation in the Officiating Functions of Zimbabwe Tertiary Sports Organizations

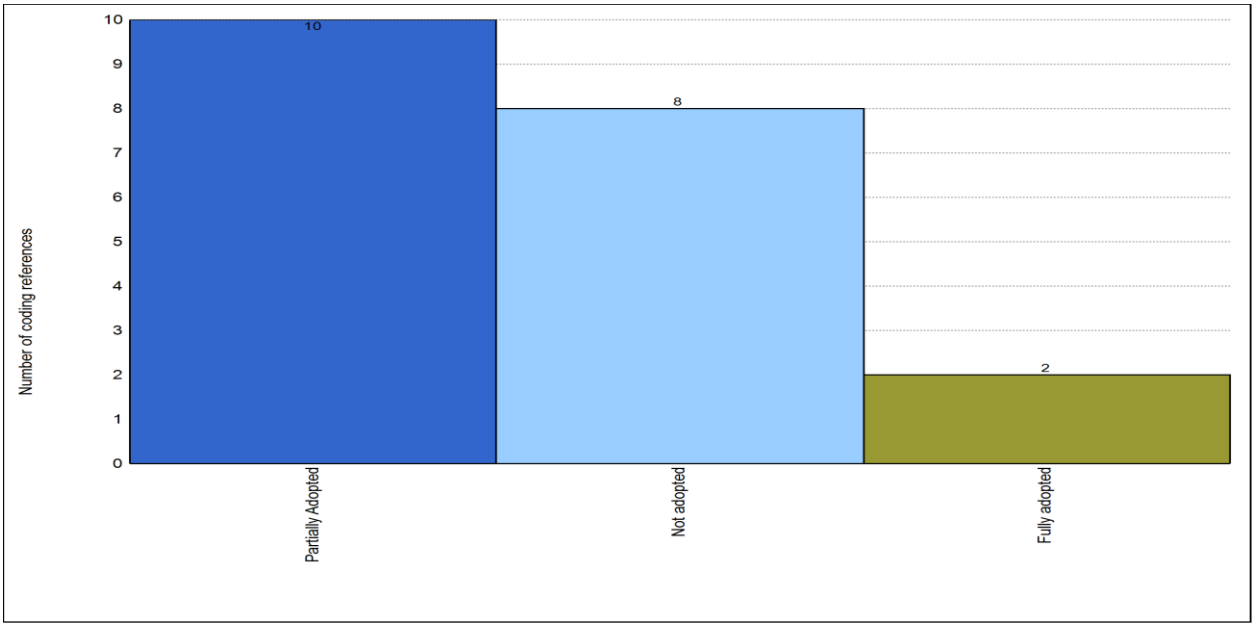


Figure 4.6 depicting the digital innovation in the officiating function of Zimbabwe's tertiary sports reveals a mixed picture. With 10 NVivo coding references indicating partial adoption, 8 coding references suggesting that it has not been adopted, and 2 coding references showing full adoption: Some of the research participants amplified the dominant view that digital technology has been partially adopted by saying that:

We have started to implement certain digital tools in officiating, but there is still a long way to go to fully leverage technology for more efficient and accurate decision-making.

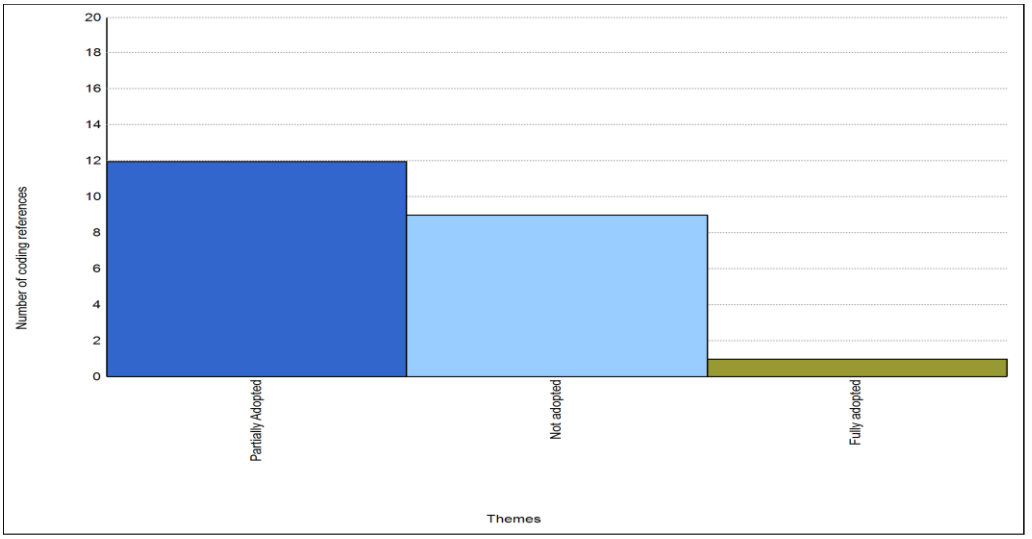
This was echoed by another respondent who noted that:

Some officiating bodies have been resistant to change and are hesitant to adopt new technologies, which has hindered progress in modernizing our officiating processes.

The interview respondents were also asked to describe the current levels of adoption of digital innovation in the event management functions of Zimbabwe tertiary sports organizations. Their responses were organized into themes using the NVivo tool as presented in Figure 4.7.

Figure 4.7:

The Current Levels of Adoption of Digital Innovation in the Event Management Functions of Zimbabwe Tertiary Sports Organizations



Based on the information provided, figure 4.7 indicates that digital innovation in the event management function of Zimbabwe Tertiary sports has been partially adopted, according to 12 NVivo coding references. Additionally, 8 NVivo coding references suggest that the innovation has not been partially adopted in the event management function, while 1 NVivo coding reference indicates that it has been fully adopted. This data suggests that there is a mix of opinions regarding the extent of digital innovation adoption in the event management function. Some respondents believe that the innovation has been partially adopted, while others think it has not been adopted to the desired extent. However, there is one respondent who believes that

the innovation has been fully adopted. One of the participants indicated that digital technology has been partially adopted in the management function of Zimbabwe tertiary sports organizations by saying that:

> *We have made some progress in adopting digital innovation in event management, but there is still a lot more to be done.*

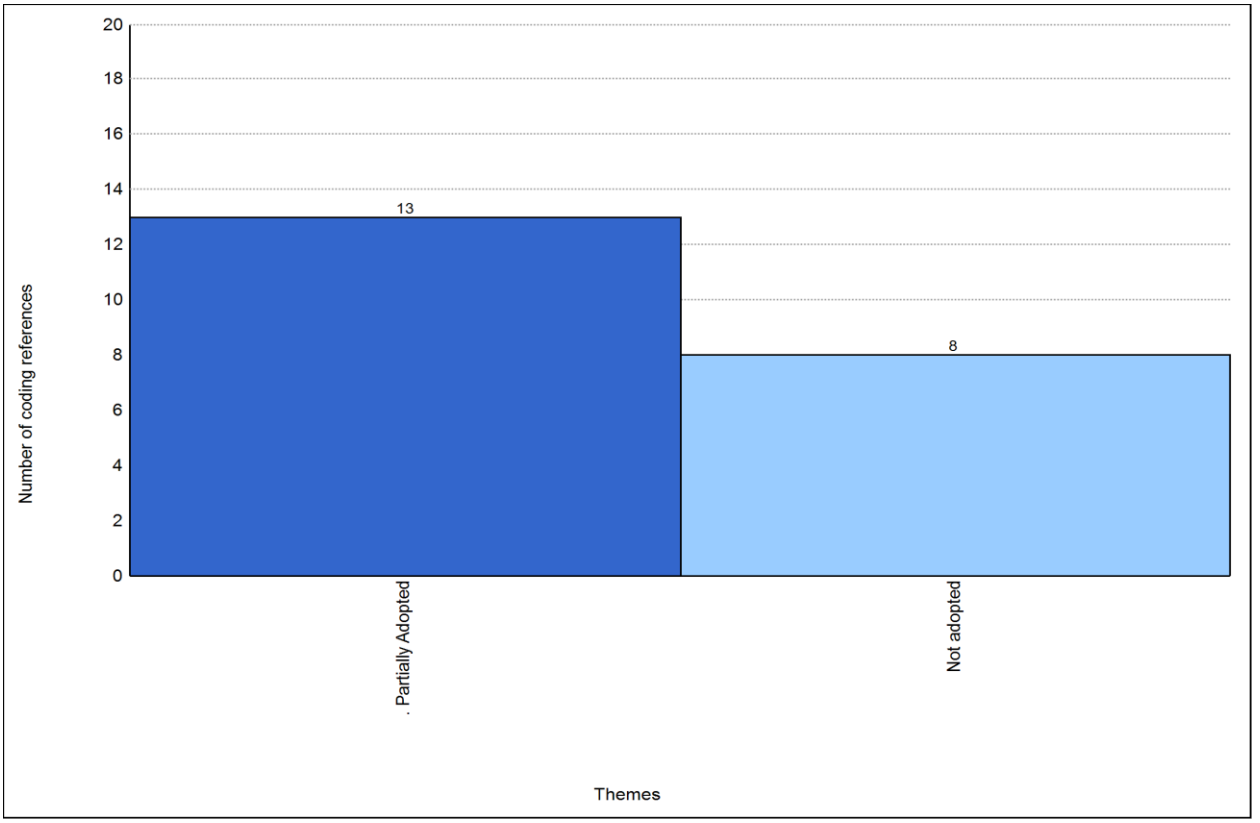
Another interview indicated that digital technology is yet to be adopted in the management function of Zimbabwe tertiary sports organizations by saying that:

> *I don't think we have embraced digital innovation in event management at all. We are lagging compared to other countries.*

The interview respondents were also asked to describe the current levels of adoption of digital innovation in the marketing functions of Zimbabwe tertiary sports organizations. Their responses were organized into themes using the NVivo tool as presented in Figure 4.8.

Figure 4.8:

The Current Levels of Adoption of Digital Innovation in the Marketing of Zimbabwe Tertiary Sports products and Services



Based on Figure 4.8, it is evident that digital innovation in the marketing of Zimbabwe's Tertiary sports services function of Zimbabwe Tertiary sports has been partially adopted, as indicated by 13 NVivo coding references. However, there are 8 NVivo coding references suggesting that the innovation has not been partially adopted as a marketing tool, and there are no references indicating full adoption. This data suggests that there is some level of digital innovation adoption in the marketing of tertiary sports products and services management, but it is not widespread or fully embraced. The presence of both partially adopted and not partially adopted references indicates a mixed state of digital innovation implementation in this area.

One of the interviewees captured the view that digital technology has been partially adopted in the marketing function of Zimbabwe tertiary sports organizations by saying that:

> *"We have started incorporating digital marketing techniques, but there is still a long way to go in fully utilizing the potential of digital platforms."*

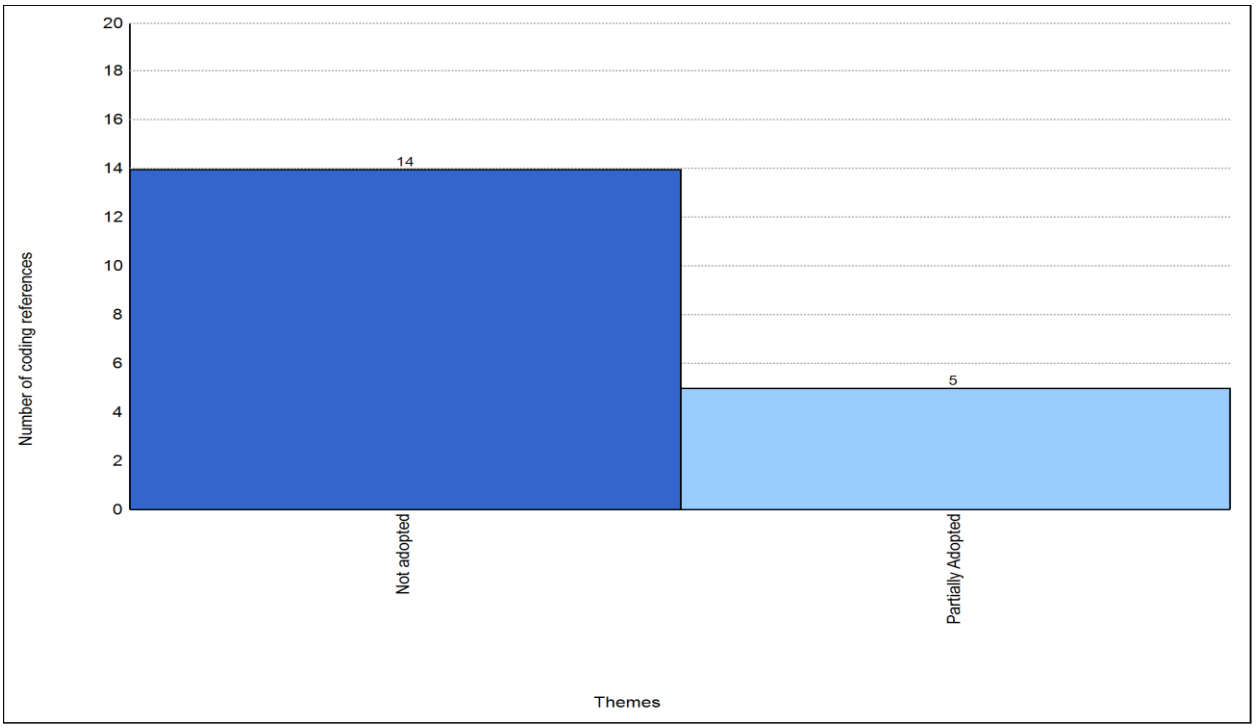
This was echoed by another participant who noted that:

> *We are yet to fully embrace digital marketing. Traditional marketing methods still dominate, and we need to adapt to the changing landscape.*

The interview respondents were also asked to describe the current levels of adoption of digital innovation as an injury management tool in Zimbabwe tertiary sports organizations. Their responses were organized into themes using the NVivo tool as presented in Figure 4.9.

Figure 4.9:

The Current Levels of Adoption of Digital Innovation as an Injury Management Tool in Zimbabwe Tertiary Sports Organizations



Based on the figure 4.9 provided, it indicates that digital innovation in the injury management function tool of Zimbabwe Tertiary sports has not been adopted, in the injury management function as informed by 14 NVivo coding references. On the other hand, 5 NVivo coding references suggest that the innovation has been partially adopted as an injury management tool in Zimbabwean tertiary sports organizations.

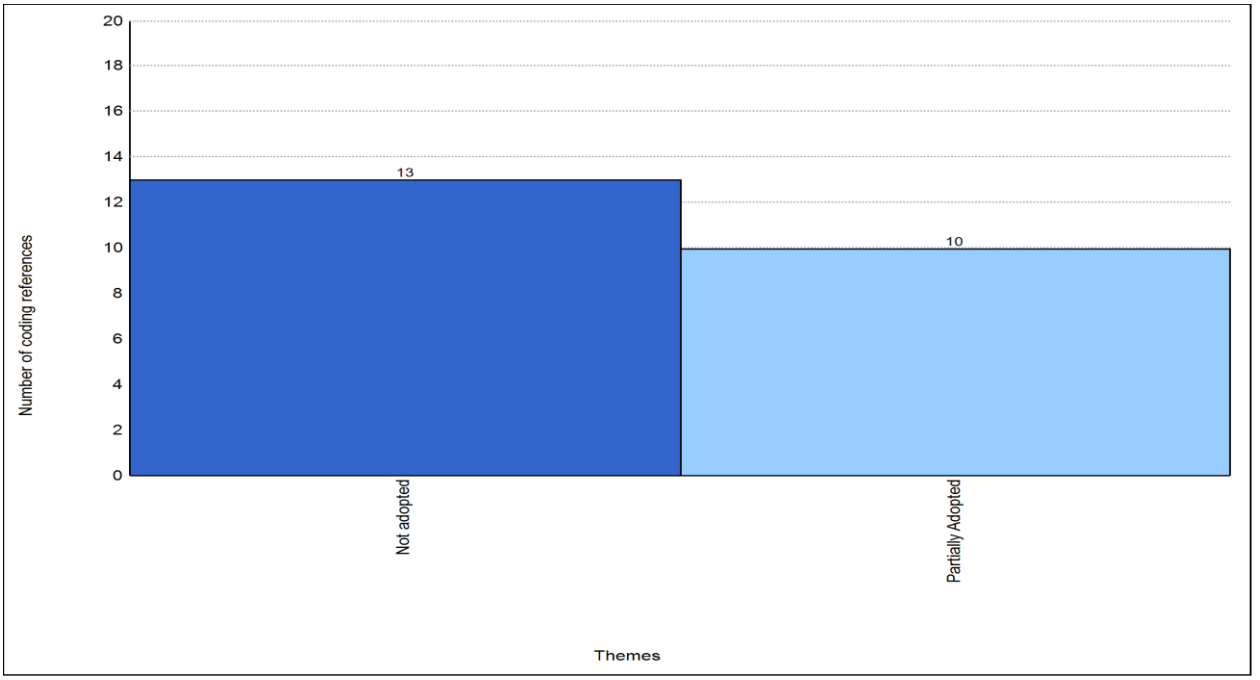
One of the research participants captured the dominant view that digital technology has not yet been adopted as an injury management tool in Zimbabwean tertiary sports organizations by saying that:

We rely more on traditional methods, which can hinder efficiency and accuracy.

The interview respondents were also asked to describe the current levels of adoption of digital innovation as a clean sports promotion tool in Zimbabwe tertiary sports organizations. Their responses were organized into themes using the NVivo tool as presented in Figure 4.10.

Figure 4.10:

The Current Levels of Adoption of Digital Innovation in Clean Sports Promotion in Zimbabwe Tertiary Sports Organizations



In the results presented in Figure 4.10, 13 NVivo coding references suggest that digital innovation is not being used in promoting clean sports in Zimbabwe Tertiary Sports. Ten (10) NVivo coding references suggest that digital innovation has been partially adopted as clean sport promotional tools.

One of the interviewees showed that digital innovation has been partially adopted as clean sport promotional by saying that:

> *Digital innovation in clean sports is only partially adopted.*

The data from both quantitative and qualitative analyses consistently demonstrate a pattern of partial adoption of digital innovation in the management and technical functions of Zimbabwe Tertiary Sports. The regression analysis, particularly the ANOVA section, reveals a high level of improbability that digital innovation is fully implemented. Similarly, the qualitative data aligns with this trend, indicating partial adoption across various technical functions.

4.5.3 Research Question 2. What factors are responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations?

ANOVA was computed to compare the means of adoption levels across different groups or factors to understand the significance of these factors on digital innovation adoption.

Table 4.13:

ANOA Test Results on Factors Responsible for Shaping the Current Levels of Adoption of Digital Innovation in Zimbabwean Tertiary Sports Organizations.

ANOVA						
Questionnaire Items		Sum of Squares	Df	Mean Square	F	Sig.
Tertiary sports leaders have the desire to adopt digital innovation-based change.	Between Groups	8.214	4	2.054	2.538	.043
	Within Groups	108.419	134	.809		
	Total	116.633	138			
Tertiary sports leadership encourages digital innovation.	Between Groups	26.381	4	6.595	8.552	.000
	Within Groups	103.345	134	.771		
	Total	129.727	138			
Tertiary sports leaders are adequately equipped with the Information Technology skills needed to successfully embrace digital innovation.	Between Groups	166.305	4	41.576	208.756	.000
	Within Groups	26.688	134	.199		
	Total	192.993	138			
Tertiary sports organizations include digital innovation initiatives in their strategic planning	Between Groups	117.035	4	29.259	111.535	.000
	Within Groups	35.152	134	.262		
	Total	152.187	138			
Tertiary sports organizations have the resource capacity needed to implement and sustain digital initiatives.	Between Groups	141.380	4	35.345	123.281	.000
	Within Groups	38.418	134	.287		
	Total	179.799	138			
Tertiary sports leadership engages key stakeholders such as athletes, coaches, fans, and sponsors in the formulation of digital transformation strategies.	Between Groups	178.872	4	44.718	213.529	.000
	Within Groups	28.063	134	.209		
	Total	206.935	138			
Tertiary sports have a regulatory framework and guidelines that promote the adoption of digital technologies.	Between Groups	154.603	4	38.651	120.664	.000
	Within Groups	42.922	134	.320		
	Total	197.525	138			

For the first item, the sig. (P value) of 0.043 indicates that there is a statistically significant difference in the desire of tertiary sports leaders to adopt digital innovation-based change between the groups. However, the effect size as indicated by the F-value of 2.538 is relatively small, suggesting that the variability between the groups is not significantly larger than the variability within the groups.

For the second item, the sig. (p-value) of 0.000 indicates that there is a high significance in the encouragement of digital innovation by tertiary sports leadership between the different groups. In other words, the level of encouragement for digital innovation varies significantly among the groups of sports leadership. The F-value of 8.552 is associated with the significance level mentioned above. The F-value is large, suggesting that the variability between the groups is significantly larger than the variability within the groups.

For the third item, the sig. (p-value) of 0.000 indicates that there is a highly significant difference in the adequacy of IT skills of tertiary sports leaders to embrace digital innovation between the different groups. In other words, the level of IT skills and readiness for digital innovation varies significantly among the groups. The F-value of 208.756 is very large suggesting that the variability between the groups is significantly larger than the variability within the groups. These differences suggest that some groups may be more equipped and prepared to embrace digital innovation in the tertiary sports industry.

For the fourth item sig. (p-value) of 0.000 indicates that there is a high sig. differences in the inclusion of digital innovation initiatives in the strategic planning of tertiary sports organizations between the different groups. In other words, the extent to which digital innovation initiatives are included in strategic planning varies significantly among the groups of tertiary sports organizations. The F-value of 111.535 is very large, suggesting that the variability between the groups is significantly larger than the variability within the groups.

For the fifty items, the significance p-value of 0.000 indicates that there is a highly significant difference in the resource capacity of tertiary sports organizations to implement and sustain digital initiatives between the different groups. In other words, the ability to allocate resources and sustain digital initiatives varies significantly among the groups of tertiary organizations. The value of 123.281 is very large, suggesting that the variability between the groups is significantly larger than the groups. This data suggests that some groups of tertiary sports leadership are more effective at involving key stakeholders such as athletes, coaches, fans, and sponsors in the formulation of digital transformation strategies than others.

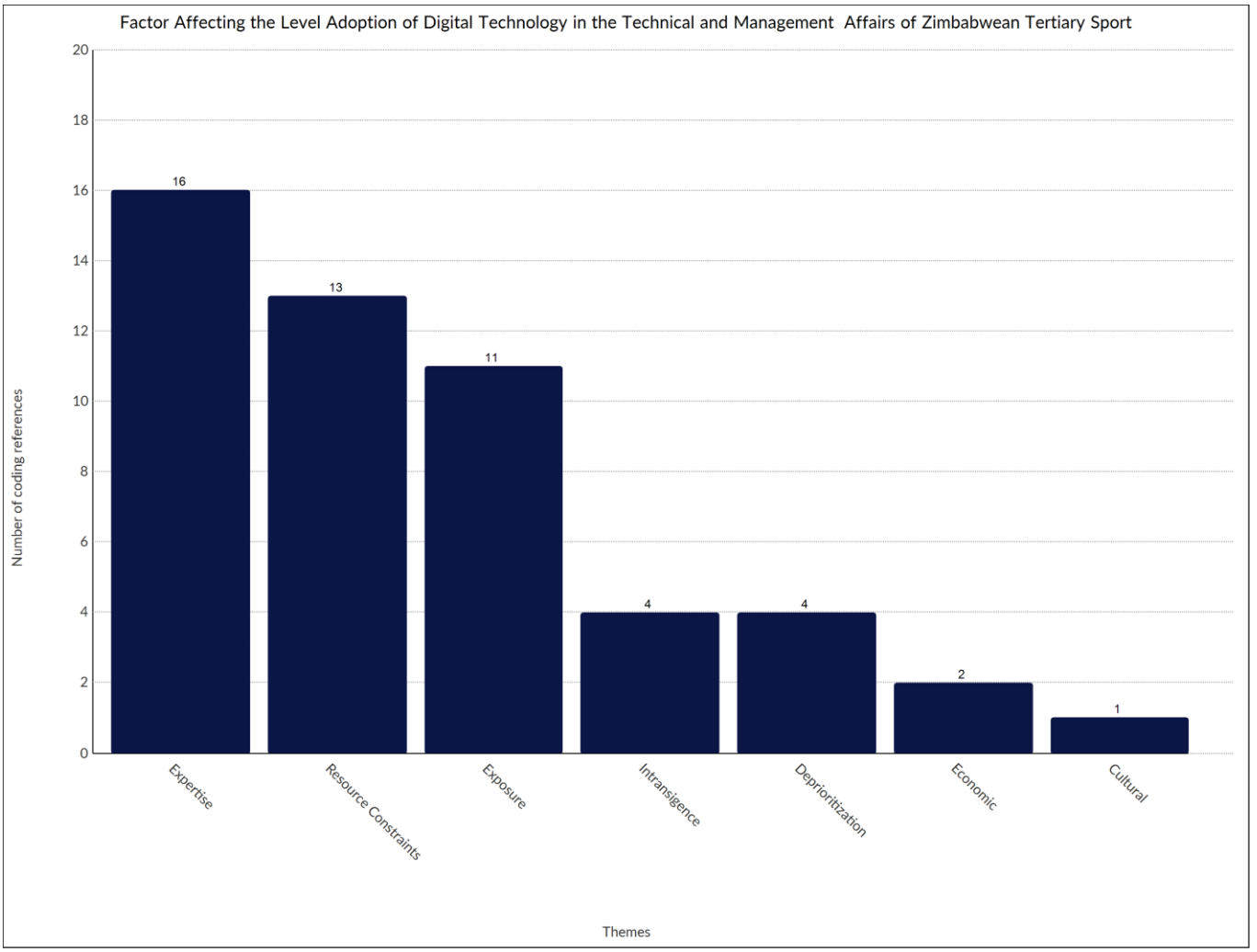
The sixth item's significance p-value of 0.000 indicates that there is a highly significant difference in the engagement of key stakeholders by tertiary sports leadership in the formulation of digital transformation strategies between the different groups. In other words, the extent of stakeholder engagement in the formulation of digital transformation strategies varies significantly among the groups of tertiary sports leadership. The F-value of 213.529 is very large, suggesting that the variability between the groups is significantly larger than the variability within the groups.

The seventh item's significance p-value of 0.000 indicates that there is a highly significant difference in the presence of a regulatory framework and guideline promoting the adoption of digital technologies in tertiary sports between the different groups. In other words, the existence and effectiveness of regulatory measures and guidelines promoting digital technology adoption vary significantly among the groups in the tertiary sports sector. The F-value of 120.664 is associated with the significance levels. The F-value is quite large, suggesting that the variability between the groups is significantly larger than the variability within the groups. This data indicates that some groups in the tertiary sports sector have a more robust regulatory framework and guidelines in place to encourage and facilitate the adoption of digital technologies. These measures can enhance the integration of digital technologies into various aspects of tertiary sports such as management, operation, and fan engagement.

In the qualitative strand, the interviewee alluded to several factors perceived to be shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations especially in the technical and management affairs of the associations. The NVivo analysis was used to group the opinions of the interviewees into themes as presented in Figure 4.11.

Figure 4.11:

Factors Responsible for Shaping the Current Levels of Adoption of Digital Innovation In Zimbabwean Tertiary Sports Organizations



The data from the interviewees suggests that several factors are currently shaping the level of adoption of digital innovation in Zimbabwe's Tertiary Sports. The respondents perceive limited expertise as a significant barrier to the adoption of digital innovation (16 NVivo coding references)' This implies that individuals or organizations lack the necessary knowledge, skills, and understanding of digital technologies in the context of Zimbabwe Tertiary Sports. The interviews highlight that resource constraints (13 NVivo coding references) pose a significant challenge to the adoption of digital innovation. The interviewee believed that limited financial capital, technological infrastructure, and human resources hinder the ability of organizations to embrace digital solutions effectively. The data suggests that limited exposure (Exposure 11 NVivo coding references) to digital innovation contributes to its low adoption in Zimbabwe

Tertiary Sports. Accordingly, participants alluded to a lack of awareness about the benefits, applications, and available digital tools and technologies that might hinder individuals and organizations from adopting them. The interviews indicate that inadequate technological infrastructure (4 NVivo coding references) is a barrier to the adoption of digital innovation. This refers to issues such as limited internet connectivity, outdated hardware and software, and insufficient IT infrastructure within sports institutions.

The data highlights that digital innovation is often deprioritized (4 NVivo coding references) in Zimbabwe Tertiary Sports. This suggests that other pressing issues or priorities take precedence over investing in digital solutions. Perhaps, this has been a result of economic hardships impacting the adoption of digital innovation which were mentioned by participants. Participants mentioned issues such as financial constraints and economic instability as part of the factors limiting investments in digital technologies within the sports sector. The data indicates that cultural factors (1 NVivo coding reference) may influence the adoption of digital innovation. One participant believed that cultural norms, values, and attitudes toward technology and change play a role in accepting and integrating digital solutions.

The data collected through both quantitative and qualitative means provide complementary insights that support each other in identifying the factors shaping the current levels of adoption of digital innovation in Zimbabwe's Tertiary Sports. Specifically, both types of data highlight the lack of leadership and resource constraints as key factors affecting the growth of digital innovation in the sports sector.

4.5.4 Research Question 3. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their management and technical performance?

To understand the impact of the adoption of digital innovation in Zimbabwe's Tertiary sports organizations on their management and technical performance, a t-test was conducted. In the given, data concerning the revolutionized digital and service marketing in Zimbabwean tertiary sports due to digital technology, there is the following information for a one-sample test:

Table 4.14:

One sample statistics

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Digital technology has revolutionized digital and service marketing in Zimbabwean tertiary sports.	139	2.58	1.141	.097

Table 4.15:

One Sample Test Showing the Impact of the Current Levels of Adoption of Digital Innovation in Zimbabwean Tertiary Sports Organizations in Management and Technical Performance

	Test Value = 3.0					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Digital technology has revolutionized digital and service marketing in Zimbabwean tertiary sports.	-4.310	138	.000	-.417	-.61	-.23

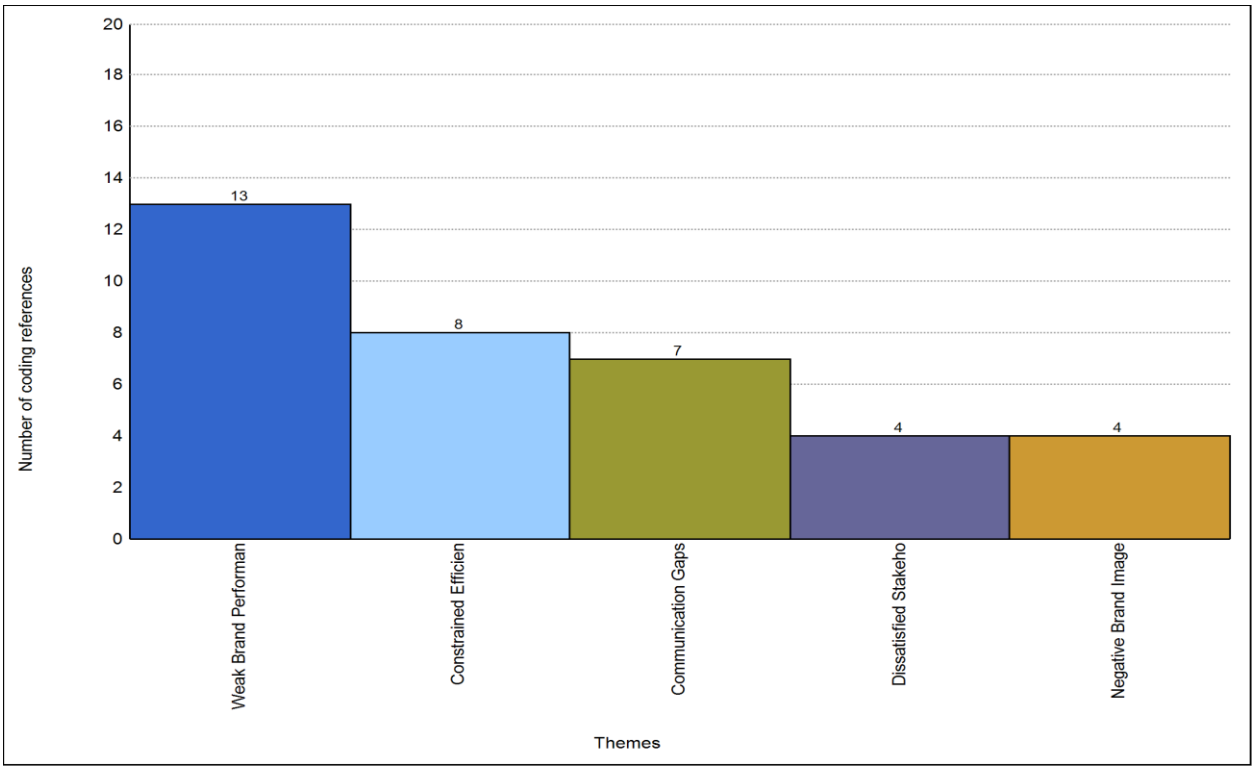
The significance (p-value) of 0.000 indicates that there is a highly significant difference between the observed mean and test value. It means that the revolutionized digital and service marketing in Zimbabwean tertiary sports due to digital technology is significantly different from the expected value of 3.0. The T-value of -4.310 measures the difference between the observed mean and the test value in terms of standard error. The t-value is negative, indicating that the observed mean is lower than the test value. The mean difference of -0.417, 95% confidence interval, and the lower and upper bounds of the confidence interval are -0.61 and -

0.23, respectively. This suggests that with 95% confidence, the true population mean difference is expected to be between -0.61 and -0.23. The data indicates that the revolutionized digital and service marketing in Zimbabwean tertiary sports due to digital technology is significantly below the expected value of 3.0. The negative mean difference suggests that the observed mean is lower than the test value, indicating that the impact of digital technology on digital and service marketing in Zimbabwean tertiary sports may not have met the anticipated level. This data highlights the need for potential improvements and strategies to enhance the utilization and effectiveness of digital technology in digital and service marketing within the Zimbabwean tertiary sports industry.

In the qualitative strand, interviews were used to determine the impact of the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations on management and technical performance. The views of the participants were organized by NVivo 12 as presented in Figure 4.12.

Figure 4.12:

The Impact of the Current Levels of Adoption of Digital Innovation in Zimbabwean Tertiary Sports Organizations on Management and Technical Performance



In the analysis 13 NVivo coding references were recorded for weak brand performance, 8 NVivo coding references for constrained efficiencies, 7 coding references for communication gaps, 4 coding references for dissatisfied stakeholders, and 4 coding references for a negative brand image.

The weak brand performance, as indicated by the interviewee, suggests that the tertiary sports sector in Zimbabwe is struggling to establish a strong and recognizable brand identity. This could be due to various reasons such as a lack of marketing efforts, limited resources, or ineffective branding strategies as indicated by some interviewees. A weak brand performance can hinder the adoption of digital innovation as it affects the perception and credibility of the sector. Constrained efficiencies, as highlighted by the interviewee, imply that the processes and operations within the tertiary sports sector are not optimized to their full potential. This could be attributed to outdated systems, limited technological infrastructure, or resistance to change. Constrained efficiencies can impede the adoption of digital innovation by preventing the sector from effectively leveraging digital tools and platforms to streamline operations and improve overall performance.

The interviewee also mentioned communication gaps within the tertiary sports sector. Communication gaps can occur at various levels, including between stakeholders, teams, and management. Insufficient communication can lead to misunderstandings, delays in decision-making, and a lack of coordination. These communication gaps can hinder the adoption of digital innovation by impeding effective collaboration and information sharing. Furthermore, the interviewee pointed out that there are dissatisfied stakeholders within the tertiary sports sector. Stakeholder dissatisfaction could stem from factors such as unmet expectations, lack of transparency, or ineffective engagement strategies. Dissatisfied stakeholders may be less inclined to support and invest in digital innovation initiatives, which can hinder progress in adopting digital technologies.

Finally, the interviewee highlighted a negative brand image as a challenge for the adoption of digital innovation. A negative brand image can arise from factors such as poor reputation, past failures, or negative perceptions among stakeholders. A negative brand image can undermine confidence in the sector's ability to successfully implement digital innovation initiatives, making it difficult to garner support and participation.

The congruence between the qualitative and quantitative strands of data in assessing the impact of current levels of adoption of digital innovation in Zimbabwe's tertiary sports sector is evident. Both strands of data provide insights into different aspects of the adoption of digital innovation

and together contribute to a more comprehensive understanding of the situation. The quantitative strand, represented by the t-test analysis, indicates that the present digital technology has failed to revolutionize digital and service marketing in Zimbabwe's tertiary sports sector. This finding suggests that the adoption of digital innovation in marketing efforts has not resulted in significant transformative changes, as evidenced by the lack of statistically significant differences in the measured variables. On the other hand, the qualitative strand of data highlights negative aspects such as weak brand performance in the sector. In solidarity, the congruence between the two strands of data suggests a consistent picture of the current state of digital innovation adoption in Zimbabwe's tertiary sports sector

4.5.5 Research Question 4. What strategic agility principles-driven framework can be developed to stimulate digital innovation in Zimbabwe's Tertiary sport?

Table 16:

NVivo 12 Analysis of Strategic Agility Principles-Driven Framework that can be developed to Stimulate Digital Innovation in Zimbabwe's Tertiary Sport

NVivo Code	***The aggregate number of coding references***
Embrace a culture of experimentation	71
Foster collaboration	67
Agile sport event management	102
Strategic partnerships	43
Regulatory framework	89
Scalability and flexibility	42

The qualitative strand of the research aimed to formulate a strategic agility principles-driven framework to stimulate digital innovation in Zimbabwe's tertiary sports sector. The findings from the qualitative analysis, utilizing NVivo coding, highlight several key areas that emerged as important for fostering digital innovation.

Embracing a culture of experimentation was a prominent theme, with 71 NVivo coding references. This indicates the significance of creating an environment that encourages and

supports experimentation and risk-taking. A culture of experimentation allows stakeholders within the tertiary sports sector to explore new digital technologies, test innovative ideas, and learn from failures, ultimately driving digital innovation forward.

Fostering collaboration emerged as another crucial aspect, with 67 NVivo code references. Collaboration involves bringing together diverse skills and perspectives through cross-functional teams and partnerships. By fostering collaboration, stakeholders can leverage combined expertise, resources, and networks to drive digital innovation in the sector.

Agile sports events management was identified as a key area, with 102 NVivo code references. This highlights the importance of implementing agile project management methodologies within sports events management processes. Agile approaches enable quick iterations, adaptability to changing circumstances, and rapid response to emerging opportunities, ultimately enhancing digital innovation in sports events.

Strategic partnerships were also recognized as significant, with 43 NVivo code references. Collaborating with technology providers, startups, research institutions, and other relevant stakeholders fosters knowledge sharing, resource sharing, and access to expertise, ultimately driving digital innovation in the tertiary sports sector.

Creating a regulatory framework emerged as another important theme, with 89 NVivo code references. This suggests the need for establishing supportive policies and regulations that facilitate digital innovation. A favourable regulatory environment encourages the adoption of digital technologies and removes potential barriers that may hinder progress in the sector.

Lastly, scalability and flexibility were identified as key factors, with 42 NVivo code references. This emphasizes the importance of designing digital innovations that can scale and adapt to evolving needs and requirements. Scalable and flexible solutions allow for easy integration, future enhancements, and the ability to address changing demands effectively.

4.6 CHAPTER SUMMARY

This chapter has successfully delivered the results necessary to answer the key research questions. It has provided a foundation for the subsequent discussion chapter, where which will explore and interpret the results in greater depth. Through this rigorous analysis and examination, the aim is to generate valuable insights that can inform strategies, policies, and practices to drive digital innovation and advancement in Zimbabwe's tertiary sports sector.

CHAPTER 5: DISCUSSION

5.1 INTRODUCTION

This chapter represents a critical phase of the research study, encompassing the analysis of qualitative and quantitative data, the development of new insights from research participants, the highlighting of the significance of the framework, and the discussion of the study's limitations. By examining the results from interviews and questionnaires, developing new insights from participants' perspectives, emphasizing the framework's relevance, and acknowledging the study's limitations, this chapter provides a comprehensive understanding of the relationship between strategic agility principles and digital innovation in Zimbabwean tertiary sports organizations.

5.2 DISCUSSION

5.2.1 Research Question 1: How far have Zimbabwean Tertiary sports organizations embraced the use of digital innovation in their management and technical functions?

Based on the provided information from the questionnaire response, interviewee response, and literature, it can be noted that Zimbabwean tertiary sports organizations have partially embraced digital innovation to varying degrees in their management and technical functions. The integration of artificial intelligence, machine learning (Hinings et al. 2018), instant replay systems (Scott, 2021), goal-line technology, video assistant referee systems, mobile applications, wearable devices, and tracking devices have all contributed to improving various aspects of sports, such as training efficiency, injury prevention, officiating accuracy, and performance monitoring (Seshadri et.al 2019). Zimbabwean tertiary sports organizations have partially embraced digital innovation to varying degrees in their management and technical functions. While there is evidence of partial adoption in areas like connecting with fans, officiating, event management, marketing, injury management, and clean sports promotion, there is still room for further implementation and integration of digital tools and strategies across all organizations

5.2.2 Research Question 2. What factors are responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations?

The analysis of the data collected through both quantitative and qualitative means reveals several factors that are responsible for shaping the current levels of digital innovation in Zimbabwean Tertiary Sports. The quantitative data suggests that there is a significant difference

in the engagement of key stakeholders, particularly tertiary sports leadership, in the formulation of digital transformation strategies. Limited leadership involvement and the absence of a robust regulatory framework can hinder the adoption of digital technologies (Table 4.9). The interviews Figure 4.11 supported the data by showing detailed factors. The interviews highlight resource constraints as a significant challenge to the adoption of digital innovation. Limited financial capital, technological infrastructure, and human resources hinder the ability of organizations to embrace digital solutions effectively. According to other research, companies have come to understand that to be competitive and efficiently navigate the fierce rivalry in the market, they must be flexible and able to adapt to new circumstances (Desta, 2018). To respond appropriately and with sufficient levels of flexibility to meet the various requirements of the business environment, organizations must review and redesign their key goals, aims, strategies, and policies. This is where the concept of agility has emerged as a result of the rapid changes that have occurred within the workplace environments (Al-Romeedy, 2019; Shakhour et al., 2021). Consequently, a clear leadership and framework deficit is guiding digital transformation plans in Zimbabwe's tertiary sports.

The quantitative and qualitative data indicate that there is a significant difference in the adequacy of IT skills among tertiary sports leaders (Table 11: Table 12). Limited expertise and knowledge of digital technologies pose a barrier to the adoption of digital innovation in Zimbabwean Tertiary Sports. According to the respondents, a major obstacle to the implementation of digital innovation is low competence (16 NVivo code references) Table 4.11. In the context of Zimbabwe Tertiary Sports, this suggests that people or organizations lack the requisite knowledge, abilities, and comprehension of digital technology. According to the respondent in Table 4.12, the situation's outcome has resulted in minimal uptake and little exposure to digital innovation in Zimbabwean tertiary sports. It's possible that organizations are unaware of or do not comprehend the potential uses and advantages of digital technology.

The interaction between leadership and employees via authority, autonomy, and other aspects is characterized by the pillar of empowerment. It describes the extent to which the authority of organizational leaders and staff members at lower levels is allocated, divided, or shared. 2020; Haider and Kayani. The idea of centralization and decentralization, and how it affects decision-making power, is the most fundamental sub-component of this pillar (Kabrilyants et al., 2021).

The qualitative data in Table 4.12 data suggests that digital innovation is often deprioritized in Zimbabwean Tertiary Sports. Other pressing issues or priorities take precedence over investing

in digital solutions, leading to a lower level of adoption. A question about leadership that ignores important concerns has been brought up in the literature. According to Kabrilyants et al. (2021), an organization's dedication to its vision is primarily propagated and enforced by its leadership. Even in decentralized organizations, leadership is responsible for a large portion of power and decision-making (Al-Taweel and Al-Hawary, 2021). In agile organizations, decision-making usually takes place when three requirements are satisfied: decision-making speed, decision execution, and quick reaction. According to Kabrilyants et al. (2021), decentralized decision-making frequently comes at the expense of speed.

The respondents also allude to cultural norms, values, and attitudes toward technology and change that can influence the adoption of digital innovation Table 4.12 in the previous chapter. The data suggests that cultural factors play a role in accepting and integrating digital solutions in the sports sector. The participant thought that embracing and incorporating digital solutions is influenced by cultural norms, values, and attitudes toward technology and change. An organization that has an innovative culture is likely one that continuously assesses its current teams, structures, processes, and other organizational elements. Finding a fresh and more effective way to carry out a task or deliver a service is urgently needed (Herren and Wolfe, 2021). A culture of innovation is an underlying, organizational-wide approach to exploiting changes in the external world to better shape the organization's internal environment. It is related to change management in that a drive for innovation is a spark that encourages change. According to Zhang et al. (2023), it is the capacity to do both new and old tasks in novel ways.

The data, taken as a whole, highlights how crucial leadership participation, resource accessibility, IT know-how, prioritizing digital innovation, cultural influences, and exposure to digital innovation are in determining the present adoption levels in Zimbabwean tertiary sports. By addressing these issues, the sports industry may be more innovative and encourage the incorporation of digital technology.

5.2.3 Research Question 3. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their management and technical performance?

The data both qualitative and quantitative strands Table 4.12 and Fig 4.11 respectively suggest that the current levels of adoption of digital innovation in Zimbabwean tertiary sports organizations have an impact on their management and technical performance. The quantitative

data indicates that the impact of digital technology on digital and service marketing in the sector may not have met the anticipated level, suggesting a lack of significant transformative changes. The quantitative strand, represented by the t-test analysis Table 4.12, indicates that the present digital technology has failed to revolutionize digital and service marketing in Zimbabwe's tertiary sports sector. The qualitative data in Fig.11 provides further insights into the challenges faced by the sector, including weak brand performance, constrained efficiencies, communication gaps, stakeholder dissatisfaction, and a negative brand image. These factors can hinder the adoption of digital innovation and impede the sector's ability to effectively leverage digital technologies for improved management and technical performance. Scholarly opinions in the literature suggest that agility notions that minimize harm to the firm are absent from Zimbabwe's tertiary sports leadership. According to Mata et al. (2023), there are several potential advantages for Zimbabwean tertiary sports organizations if these issues are resolved and digital innovation is better used. According to (Zhang et al., 2023), organizations may improve their visibility, legitimacy, and appeal to stakeholders by fortifying their brand performance. Using digital tools and platforms to optimize efficiency may increase resource allocation, streamline processes, and boost overall performance. Al-Rhomedy (2019). Closing communication gaps more effectively helps promote cooperation, planning, and efficient decision-making. Initiatives about digital innovation can receive support, involvement, and funding by resolving stakeholder unhappiness and enhancing brand perception. Organizations in the tertiary sports industry must be aware of how digital innovation affects their technical performance and management, and they must move quickly to address any issues that are brought to light. Al-Rhomedy (2019) suggests that this may entail making investments in digital infrastructure, enhancing branding and marketing tactics, endorsing efficient communication routes, resolving stakeholder issues, and cultivating an innovative and digitally adoptive culture. Organizations may better position themselves for success, competitiveness, and increased performance in the digital age by doing this.

5.2.4 Research Question 4. What strategic agility principles-driven framework can be developed to stimulate digital innovation in Zimbabwe's Tertiary sport?

The measures provided in the NVivo coding references reflect various aspects that participants have discussed in promoting agility principles among tertiary education institutions. With 71 coding references, embracing a culture of experimentation this measure suggests the significance of fostering a culture that encourages experimentation and innovation within tertiary education institutions. Participants emphasize that an experimental mindset promotes

adaptability, risk-taking, and continuous improvement. In support of this, Esazadeh et al. (2020) argue that institutions are encouraged to explore new approaches, technologies, and teaching methods, enabling them to respond effectively to changing demands and challenges in the education landscape.

With 67 coding references, collaboration is recognized as a vital aspect of promoting agility principles in tertiary education. Participants highlight the importance of interdisciplinary collaboration among faculty, students, administrators, and external stakeholders. In support of this Esazadeh et al. (2020) argue collaborative efforts facilitate knowledge sharing, creativity, and the co-creation of solutions. It enhances agility by leveraging diverse perspectives, expertise, and resources to address complex problems and drive innovation. Hansen et al. (2020) argue that a supportive and adaptive organizational culture is essential for strategic agility. This includes fostering a culture of innovation, encouraging risk-taking, and promoting collaboration and communication within the organization.

With 102 coding references, agile sport event management is identified as a critical measure to promote agility principles in tertiary education institutions involved in sports. Accordingly, research participants emphasize the need for flexible and adaptive approaches to event planning, organization, and execution. Investing in the intermediate steps and the process as a whole garner more success than an organization explicitly outcome-oriented and is also characteristic of those organizations that embody the concept of agility (Shakhour et al., 2021). In the same vein, Zahoor et al. (2022) indicate that strategic agility is an effective approach that can help organizations to strive within the marketplace, and agile organizations easily adapt to unexpected changes in the business environment, particularly in the current global market competition which provides a variety of services with innovation and change management. Agile management practices enable institutions to respond quickly to changing circumstances, such as scheduling conflicts, participant requirements, or unforeseen challenges. It involves iterative planning, effective communication, and the ability to make timely adjustments to optimize the overall event experience.

With 43 coding references, strategic partnerships are recognized as an important avenue for promoting agility principles in tertiary education. Research participants highlight the benefits of forming collaborations with external organizations, industry partners, and community stakeholders. Accordingly, Esazadeh et al. (2020) posit that collaborating with external partners such as sponsors, suppliers, or other organizations in the sports industry can enhance strategic

agility. A strategic partnership can provide resources, expertise, and networks that can help small and medium-sized sports enterprises adapt and respond to changes more effectively. In the same vein, Seyed et al. (2017) purport that strategic partnerships provide access to expertise, resources, and opportunities for joint initiatives. They enhance agility by enabling institutions to leverage external knowledge, networks, and support, fostering innovation, and facilitating responsiveness to emerging trends and demands.

With 89 coding references, the regulatory framework is highlighted as a factor influencing agility principles in tertiary education institutions. Research participants emphasize the importance of a supportive and flexible regulatory environment that encourages experimentation, innovation, and adaptation. A regulatory framework that enables autonomy encourages risk-taking, and promotes accountability without stifling creativity and responsiveness is crucial for institutions to embrace agility principles effectively.

With 42 coding references, scalability and flexibility are identified as essential characteristics in promoting agility principles within tertiary education institutions. Research participants argue for the importance of scalable and flexible infrastructures, systems, and processes that can adapt to changing needs and demands. This includes technological infrastructure, curriculum design, administrative procedures, and resource allocation. Scalability and flexibility enable institutions to respond efficiently to fluctuations in student enrollment, emerging technologies, evolving market demands, and other external factors.

As a whole, scholars emphasize the importance of cultivating an experimental culture, encouraging collaboration, implementing agile management practices, forming strategic partnerships, ensuring a supportive regulatory framework, and incorporating scalability and flexibility when promoting agility principles among tertiary education institutions. These indicators promote adaptation, creativity, responsiveness, and continual development, allowing institutions to prosper in a continuously changing educational context.

5.3 CONCEPTUAL FRAMEWORK

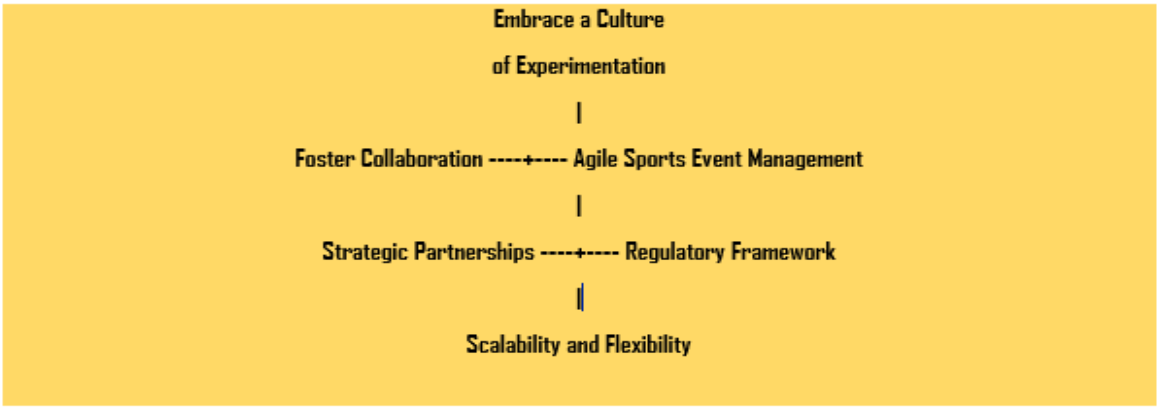
The findings from the study were used to develop a conceptual framework grounded on strategic agility principles. In this conceptual framework, the central concept is "Strategic Agility Principle Framework for Digital Innovation in Zimbabwe Tertiary Sports." Each strategic agility principle is represented as a branch stemming from the central concept. The branches highlight the interconnectedness and interdependence of the principles in stimulating

digital innovation. The concept provides a visual representation of the framework, showcasing the relationships between the different principles.

Figure 5.1:

Strategic Agility Framework for Digital Innovation in Zimbabwean Tertiary Sports

Strategic Agility Principles Framework for Digital Innovation in Zimbabwe Tertiary Sports



- **Embrace a Culture of Experimentation**

  This element emphasizes the importance of fostering a culture that encourages experimentation, risk-taking, and learning. It should be connected to the central concept, indicating its integral role in driving digital innovation.

- **Foster Collaboration**

  This element signifies teamwork and collaboration, such as overlapping circles or interconnected puzzle pieces. It should highlight the significance of cross-functional collaboration and open communication in generating innovative ideas and solutions.

- **Agile Sports Event Management**

  This element signifies agility and adaptability, such as an arrow or a flowchart. It should demonstrate the iterative nature of agile sports event management and its role in delivering innovative and engaging sports events.

- **Strategic Partnerships**

This element can be represented by connecting lines or arrows that depict collaboration between different entities, such as sports associations, sponsors, and educational institutions. It should emphasize the importance of forming strategic partnerships to leverage resources, expertise, and networks for driving digital innovation.

- **Regulatory Framework**

  This element symbolizes rules or guidelines, such as a legal document or a shield. It should highlight the need to navigate the regulatory framework and align innovation efforts with ethical and legal practices within the Zimbabwean tertiary sports context.

- **Scalability and Flexibility**

  This element signifies adaptability and growth, such as an expanding circle or a flexible arrow. It should emphasize the importance of designing scalable and flexible solutions to meet evolving market demands and facilitate continuous digital innovation.

Connecting lines or arrows can be used to demonstrate the interconnections and relationships between these elements, symbolizing their collective impact on stimulating digital innovation in Zimbabwe's Tertiary sports.

5.3.1 Significance of the Framework

The significance of the strategic agility principle framework lies in its ability to foster a culture of innovation, adapt to changing market dynamics, and drive digital innovation in Zimbabwean Tertiary sports. By following the framework, organizations and institutions can position themselves for long-term success, growth, and relevance in the sports industry. However, the framework of the research may be specific to the context of Zimbabwean Tertiary sports and may not be directly applicable to other regions or industries. The specific characteristics of the sample or context may limit the generalizability of the results

5.3.2 Expert Validation of the Framework

Describe in detail, the methods you used to collect data to validate the framework from purposively sampled experts. Highlight the expert skills that made you purposively select them. Explain why you settled for expert validation at the expense of external validation

Table 5.1:

Expert Validation of the Framework

Expert	Expertise Held	Comments	Action Taken
E1	Sports Management lecturer with a strong background in developing and validating frameworks similar to the one being discussed.	The framework disproportionately prioritizes short-term strategies, potentially neglecting the importance of a long-term vision.	Include a regulatory framework component in which all organizational documents containing governance are institutionalized and provide long-term solutions.
E2	Veteran Sports analyst in Zimbabwean sports equipped with a comprehensive understanding of relevant research and best practices in the field.	This framework holds promising potential for enhancing our agility and fostering innovation within the rapidly evolving digital landscape of the sports industry.	The framework recognizes the significance of engaging key stakeholders and decision-makers, including strategic partners, to effectively address the specific needs and challenges of Zimbabwe's tertiary sports landscape. By involving these important actors, the framework aims to foster collaborative efforts and leverage their expertise and resources in finding tailored solutions for the advancement of tertiary sports in Zimbabwe.
E3	Sports Consultant with extensive experience collaborating with various stakeholders in the sports industry.	The framework recognizes the integration of digital technologies as a fundamental pillar, thereby enabling us to harness their transformative power in advancing agility and fostering innovation within the dynamic realm of sports.	The observed characteristics align with the classification of agile sport management, indicating a dynamic approach that emphasizes adaptability, responsiveness, and flexibility in navigating the complex and rapidly evolving landscape of the sports industry.

5.4 LIMITATIONS OF THE STUDY

This research study has a cross-sectional design; thus it may not be appropriate to validate the framework's applicability over time. Furthermore, because of the time constraints imposed on this study, it was unable to reach a larger audience. Time restrictions limited the scope of investigation and the capacity to capture long-term effects and changes. The use of the questionnaire may have hampered the results because the researcher was not there to teach participants about the questionnaire's requirements, thus some participants may have answered the question at random without comprehending its expectations. Nonetheless, the researcher

designed the questionnaire in a preliminary study such that participants could simply follow and reply to the questions.

5.5 CHAPTER SUMMARY

This chapter presents a comprehensive analysis of qualitative and quantitative data collected during the research study. It explores the results and insights derived from interviews and questionnaires, highlights the significance of the strategic agility principle framework, and critically examines the limitations of the study. This chapter serves as a crucial foundation for the subsequent chapters and contributes to the overall understanding of how strategic agility principles can drive digital innovation in the Zimbabwean tertiary sports context.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter presents the conclusions and recommendations derived from a comprehensive study aimed at exploring the development of strategic agility principles to drive digital innovation in Zimbabwean tertiary sports. The study focused on understanding the current state of digital innovation in the context of Zimbabwean tertiary sports, identifying the challenges and opportunities, and proposing strategic agility principles as a means to foster innovation and enhance competitiveness within the industry.

6.2 CONCLUSIONS

Based on the analysis of qualitative and quantitative data collected throughout the study, several key findings have emerged. First, it was evident that the Zimbabwean tertiary sports sector needs a more structured approach to digital innovation. Second, the study revealed that strategic agility principles hold significant potential for driving digital innovation in Zimbabwean tertiary sports. Based on the research findings, several conclusions can be drawn.

6.2.1 *Research Question 1: How far have Zimbabwean Tertiary sports organizations embraced the use of digital innovation in their management and technical functions?*

The research findings indicate that tertiary sports organizations have made some use of digital technology in their technical and management roles. However, it is important to note that the adoption of digital innovation in Zimbabwe's tertiary sports organizations is still in its nascent stages.

6.2.2 Research Question 2. What factors are responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations?

The research findings shed light on several significant challenges that contribute to the current low levels of digital innovation adoption. These challenges include a lack of experience and exposure, resource limitations, resistance to change, deprioritization, as well as the organization’s culture, and economic factors within the operational environment.

6.2.3 Research Question 3. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their management and technical performance?

In conclusion, the study examined the impact of digital innovation adoption on the management and technical performance of tertiary sports organizations in Zimbabwe. The findings indicate that the current levels of digital technology adoption have failed to bring about transformative changes in digital and service marketing within the industry. Consequently, this has led to poor brand performance, limited operational efficiencies, communication gaps, stakeholder dissatisfaction, and a negative brand image.

6.2.4 Research Question 4. What strategic agility principles-driven framework can be developed to stimulate digital innovation in Zimbabwe's Tertiary sport?

In conclusion, according to research participants, to stimulate digital innovation in Zimbabwe's tertiary sport, a strategic agility principles-driven framework can be developed. This framework emphasizes the importance of embracing a culture of experimentation, fostering collaboration, adopting flexible approaches, establishing strategic partnerships, considering the regulatory framework, and prioritizing scalability and flexibility within tertiary education institutions.

6.3 RECOMMENDATIONS

6.3.1 Implications for Practice

Zimbabwe Tertiary Sports Organizations should

- Invest in training programs and workshops to enhance the digital literacy and awareness of stakeholders within the sports industry.
- Collaboration with technology providers, academia, and other sports organizations, both domestically and internationally, can facilitate knowledge sharing and exchange of best practices.
- Formulate a clear and comprehensive digital strategy and supportive regulatory framework that outlines the objectives, priorities, and roadmap for integrating digital innovation across all management and technical functions.
- Providing adequate allocation of financial and human resources is crucial for the successful implementation of digital innovation initiatives.
- Encouraging leaders to actively participate in digital innovation efforts, providing guidance, and allocating resources to support digital initiatives.

- Empowering employees to actively contribute to digital innovation, fostering an environment that encourages idea generation, and strengthening the connection between leadership and employees.

6.3.2 Implications for Future Study

Future research might look at the policy and regulatory landscape that governs tertiary sports organizations in Zimbabwe, with a particular emphasis on how these frameworks encourage or impede the adoption of digital innovation and agility concepts. Future research can also uncover relevant policy recommendations and tactics for creating a supportive climate for innovation. Future studies may also include a comparative comparison of tertiary sports organizations in other countries or regions that have effectively utilized agility concepts and digital innovation. This comparative approach can assist in discovering best practices, lessons learned, and prospective methods that can be tailored to the Zimbabwean environment. Furthermore, further research might confirm the existing "Strategic Agility Framework for Digital Innovation in Zimbabwean Tertiary Sports produced in this study."

6.4 CHAPTER SUMMARY

In conclusion, this chapter covers the study's important findings and recommendations for adopting strategic agility principles to promote digital innovation in Zimbabwean tertiary sports. Organizations and institutions in the industry can improve their competitiveness, meet customer needs, and contribute to the overall growth and development of Zimbabwean tertiary sports by adopting strategic agility principles, cultivating an innovation culture, and implementing the proposed recommendations.

References

Abuanzeha, A., Alnawayseha, A., Qtaishat, G. and Alshurideh, A. (2022). The role of strategic agility towards competitiveness with the mediating effect of knowledge management. *Uncertain Supply Chain Management* 10 (2022).

Al-Romeedy, B. S. (2019). Strategic agility as a competitive advantage in airlines–case study: Egypt air. *Journal of the Faculty of Tourism and Hotels-University of Sadat City*, *3*(1), 1-15.

Al-Taweel, I. R. and Al-Hawary, S. I. (2021). The mediating role of innovation capability on the relationship between strategic agility and organizational performance. *Sustainability*, 13(14), 7564.

Andersen, S.S. & Ronglan, L.T. (2015). Historical paths and policy change: institutional entrepreneurship in Nordic elite sport systems. *International Journal of Sport Policy and Politics*, 7(2), 1-19

Appelbaum, S. H., Calla, R., Desautels, D., & Hasan, L. (2017). *The challenges of organizational agility (part 1*). Industrial and Commercial Training, 49(1), 6-14.

Arbussa, A., Bikfalvi, A., & Marquès, P. (2017). *Strategic agility-driven business model renewal*: The case of an SME. Management Decision, 55(2), 271- 293.

Arici, T.and Gok, M. S. (2023). Examining environmental turbulence intensity: A strategic agility and innovativeness approach on firm performance in environmental turbulence situations. *Sustainability* 2023, *15*, 5364.

Balboni, B., Bortoluzzi, G., Pugliese, R. and Tracogna, A. (2019). Business model evolution, contextual ambidexterity and the growth performance of high-tech start-ups. *Journal of Business Research*, 99, 115–124.

Barone A. (2022). Digital Marketing Overview: Types, Challenges, and Required Skills, Investopedia.com, marketing essentials.

Bason, C., (2017). *Leading Public Sector Innovation*: Co-creating for a better society, Bristol: Policy Press.

Bless, C., Higson-Smith, C. & Kagee, A. (2019) *Fundamentals of social research Methods*: An African Perspective. Juta and Company Ltd., Cape Town

Brett Hutchins, David Rowe (2013). *Digital Media Sport: Technology*, Power, and Culture in the Network Society

Clauss, T., Abebe, M., Tangpong, C. and Hock, M. (2019). Strategic agility, business model innovation, and firm performance: An empirical investigation. *IEEE Transactions on Engineering Management*, 1–18.

Cohen, S. and Kaimenakis, N. (2007). Intellectual capital and corporate performance in knowledge-intensive SMEs. *The Learning Organization*, Vol. 14 Issue 3, p241-262.

Desta, T. (2018). ICT innovations, entrepreneurship and hubs in East Africa: The case of Ethiopia. *African Journal of Science, Technology, Innovation and Development*, 10 (6), 655–664.

Doldor, E., Silvester, J., & Atewologu. D. (2017). Qualitative methods in organizational psychology. In C. Willig and W. Stainton-Rogers (Eds). The Sage Handbook of Qualitative Research in Psychology, 2nd ed. (pp.522-542). *Thousand Oaks, CA: Sage*

Dollah,S., Abduh,.A. & Rosmaladew i.,R.(2017*) Benefits and drawbacks of NVivo QSR Application,* Accessed 4 November 2022, 22992/icest-17.2017.21.corpus ID 67379971

Faria, S et al (2022), Understanding the Effect of Social Media Marketing Activities on Football Fans' Satisfaction and Engagement: A Study of Portuguese 2nd League Professional Football Clubs

Funk, D., Lock, D., Karg, A., & Pritchard, M. (2016). Sport consumer behaviour research: Improving our game. *Journal of Sport Management*, 30, 113–116.

Haider, S. A. and Kayani, U. N. (2020). The impact of customer knowledge management capability on project performance mediating the role of strategic agility. *Journal of Knowledge Management*, *25*(2), 298-312.

Hansen, M. J., Vaagen, H. and Van Oorschot, K. (2020). Team collective intelligence in dynamically complex projects: A shipbuilding case. *Project Management Journal*, 51(6), 633–655.

Hemme, F., Morais, D. G., Bowers, M. T. and Todd, J. (2016). *Extending sport-based entrepreneurship theory through phenomenological inquiry*. Sport Management Review, 381, 1-13.

Herren, J. and Wolfe, K. A. (2021). University Innovation Hubs & technology-enhanced learning in K12 environments. *TechTrends* (2021) 65:320–330.

Hinings, B., Gegenhuber, T., & Greenwood, R. (2018). Digital innovation and transformation: An institutional perspective. Information and Organization, 28(1), 52–61.

Kabrilyants, R., Obeidat, B., Alshurideh, M. and Masadeh, R. (2021). The role of organizational capabilities on e-business successful implementation. *International Journal of Data and Network Science*, *5*(3), 417-432.

Kingsley, D. (2020). How have new technologies improved athletic performances? Retrieved from https://channels.theinnovationenterprise.com/ The development of a personalised training framework: Implementation of emerging technologies for performance. Journal of Functional Morphology and Kinesiology, 4(2), 25–36.

Kohtamaki, M., Heimonen, J., Sjodin, D. and Heikkil, V. (2020). Strategic agility in innovation:

Unpacking the interaction between entrepreneurial orientation and absorptive capacity by using practice theory. *Journal of Business Research*, 118, 12–25.

Liang, L., Kuusisto, A., & Kuusisto, J. (2018). *Building strategic agility through user-driven innovation:* The case of the Finnish public service sector. Theoretical Issues in Ergonomics Science, 19(1), 74–100 Industrial and Commercial Training, 49(1), 6-14

Mata, M. N., Martins, J. M. and Inacio, P. L. (2023). Impact of absorptive capacity on project success through the mediating role of strategic agility: Project complexity as a moderator. *Journal of Innovation & Knowledge* 8 (2023) 100327.

Mahlangu, G. and Makwasha, L. (2023) Factors affecting the adoption and use of online assessment for learning at Polytechnics in Zimbabwe. *Cogent Education*, 10:1, 2177475.

Malufu, K., Muchemwa, S. and Malufu, S. (2016). A comparative study of the factors influencing the adoption of e-learning by lecturers at universities in Bulawayo, Zimbabwe. *IOSR Journal of Research & Method in Education (IOSR-JRME)* Volume 6, Issue 4 Ver. III (Jul. - Aug. 2016), PP 64-73.

Nejatian, M., Zarei, M. H., Nejati, M., & Zanjirchi, S. M. (2018). A hybrid approach to achieve organizational agility: An empirical study of a food company. Benchmarking: *An International Journal,* 25(1), 201-234

Newhart, M., & Patten, M. L. (2018). Understanding research methods: *An overview of the essentials.*

INCEDI 2016 Conference 29th-31st August 2016, Accra, Ghana.

Pedersen P.M, Thibault L., (2019) *Contemporary sport management* .6th edn. Human Kinetics, Champaign, IL. 544P.ISBN:978149255096

Porter, M. E. (2008). *The five competitive forces that shape strategy*. Harvard Business Review,

Harvard.

Raji, A. & Hassan, A. (2021). Sustainability and stakeholder awareness: A case study of a Scottish University. *Sustainability* 2021, 13, 4186.

Ratten, V. (2019). *Sport Technology and Innovation*. In: Sports Technology and Innovation. Palgrave Macmillan, Cham

Rexhepi G, Smaliukience V, Ratten V (2018) *TQM Techniques as an Innovative Approach in Sports Organisation Management:* Towards a conceptual framework. Int J Bus Global

Roda, M. (2019). New examples of sports technology that's changing the game. Reflexion. Retrieved from https://www.reflexion.co/blog/sports-technology

Sahin E, (2020), The Effect of Social Media on Sports Marketing: Konyaspor Football Club Case, Journal of Business Research https://doi.org/10.20491/isarder.2020.829, The Effect of Social Media on Sports Marketing: Konyaspor Football Club Case,

Sajdak, M., Młody, M., Weinert, A. and Wójtowicz, L. (2022). How Industry 4.0 supports the strategic agility of companies. A systematic literature review. *Central European Review of Economics & Finance* Vol. 41. No 6 (2022) pp. 27-57.

Sami J, (2021), Case study on use of Social Media Marketing in four English football clubs – one from each league.

Sassen, R. & Azizi, L. (2017). Voluntary disclosure of sustainability reports by Canadian Universities. *J. Bus. Econ*. 2017, 88, 97–137.

Saunders, M.N.K., Lewis, P. & Thornhill, A. (2023) *Research Methods for Business Students*. 8th Edition, Pearson, London

Saunders, M. N., & Townsend, K. (2018). Choosing participants. *The Sage Handbook of qualitative business and management research methods (pp. 480â€“494). SAGE Publications Inc*.

Schmitt, D. and Muyoya, C. (2020). Influence in technological innovation spaces: A network

science approach to understanding innovation for sustainability in the Global South. *Sustainability*, 12(5), 1858.

Sekaran U and Bogie R (2020) *Research Methods for Business:* A Skill-building Approach.8th Edition. Wiley.

Seshadri, D. R., Li, R. T., Voos, J. E., Rowbottom, J. R., Alfes, C. M., Zorman, C. A., & Drummond, C. K. (2019). Wearable sensors for monitoring the internal and external workload of the athlete. NPJ digital medicine, 2(1), 1–18.

Seyed Javadin, S. R., Zarei, N. Presenting a Combined Approach to Investigating Factors Influencing the Agility of Human Resource Agility, Journal of Management Research, 2017; 190: 77-69

Shakhour, R., Obeidat, B., Jaradat, M., Alshurideh, M. and Masa'deh, R. (2021) Agile-minded organizational excellence: Empirical investigation. *Academy of Strategic Management Journal*, *20* (Special Issue 6), 1-25.

Shamout, M., Elayan, M., Rawashdeh, A., Kurdi, B. and Alshurideh, M. (2022). E-HRM practices and sustainable competitive advantage from HR practitioner's perspective: A mediated moderation analysis. *International Journal of Data and Network Science*, *6*(1), 165-178.

Smith, T. (2020). What is disruptive technology? Retrieved from https://www.investopedia.com/terms/ d/disruptive-technology.asp

Tabe-Khoshnood, N. & Nematizadeh, S. (2017). Strategic agility and its impact on the competitive capabilities in Iranian private banks. *International Journal of Business and Management,* 12(2), 220- 229.

Tariq, E., Alshurideh, M., Akour, I. and Al-Hawary, S. (2022). The effect of digital marketing capabilities on organizational ambidexterity of the information technology sector. *International Journal of Data and Network Science, 6*(2), 401-408.

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. California Management Review, 58(4), 13- 35

Teece, D., Pisano, G. and Shuen, A. (1997) Dynamic capabilities and strategic management. *Strategic Management Journal*, 18 (7), 509-533.

Tjonndal, A. (2021). *Social Innovation in Sport*: An Introduction to the Theory. In Sports Technology and Innovation. Palgrave Macmillan, Cham.

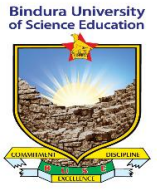
Tobi, H, & Kampen, J. K. (2018). "*Research design*: the methodology for interdisciplinary Research framework". Quality & Quantity. OX14

Zahoor, N., Golgeci, I., Haapanen, L., Ali, I. and Arslan, A. (2022). The role of dynamic capabilities and strategic agility of B2B high-tech small and medium-sized enterprises during COVID-19 pandemic: Exploratory case studies from Finland. *Industrial Marketing Management* 105 (2022) 502–514.

Zhang, H., Ding, H. and Xiao, J. (2023). How organizational agility promotes digital transformation: An empirical study. *Sustainability* 2023, *15*, 11304.

APPENDIX

Appendix 1: Questionnaire



QUESTIONNAIRE FOR TERTIARY SPORTS ORGANISATIONS IN ZIMBABWE AND THEIR STAKEHOLDERS. (MINISTRY OF SPORTS, SRC, ATHLETES, SPONSORS, AND THE MEDIA)

I am Jonhasi Steward Tinashe, a Bindura University of Science Education student pursuing a Master of Science Degree in Sports Management. I'm working on a study titled **"Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sport."** You are cordially invited to reply to the questionnaire items listed below. Your contributions will be used exclusively for scholarly reasons and kept entirely anonymous.

NB: Please answer the questions below by ticking the applicable options.

SECTION A: SOCIO-DEMOGRAPHIC DATA (TICK WHERE APPROPRIATE)

1. Gender: Male ☐ ☐ Female

2. Age: Below 21 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ over 50 ☐

3. Please indicate your professional qualifications: No formal education ☐ Primary ☐ Secondary ☐ Certification ☐ Diploma ☐ Undergraduate Degree ☐

Postgraduate ☐

4. Stakeholder Category: Sponsor ☐ Athlete ☐ Media Practitioner ☐ Sports Administrator ☐

Other ☐

SECTION B ☐

Instructions: The charts below have 5-point Likert Scale questions. You are required to tick where appropriate.

SD-strongly Disagree	D –Disagree	N-Neutral	A-Agree	SA-Strongly Agree

5. Level at which Zimbabwean Tertiary sports organizations have embraced the use of digital innovation in their management and technical functions.

Digital Innovation Practices	SD	D	N	A	SA
Tertiary sports managers use data analytics tools to collect and analyse data from various sources such as fan engagement, player performance, and operational efficiency.					
Tertiary sports managers connect with fans on various platforms such as mobile apps, social media, and streaming services.					
Tertiary sports use digital technology to schedule events, ticketing, and resource allocation.					
Tertiary sports organizations leverage digital technology to monitor and analyse athlete performance.					
Tertiary sports organizations harness online platforms and digital marketing strategies to reach a wider audience.					
Tertiary sports organizations utilize virtual and augmented reality technologies to increase fan engagement and immersive experience.					
Tertiary sports organizations leverage social media platforms to engage with fans, promote events, and build brand loyalty.					
Tertiary Sports organizations embrace digital technology to deliver high-quality broadcast and streaming experiences.					

6. Factors responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations.

Current Levels of Adoption	SD	D	N	A	SA
Tertiary sports have the quality technological infrastructure to successfully embrace digital innovation.					
Tertiary sports embrace digital innovation-based change.					
Tertiary sports leaders have the desire to adopt digital innovation-based change.					
Tertiary sports leadership encourages digital innovation.					
Tertiary sports leaders are adequately equipped with the Information Technology skills needed to successfully embrace digital innovation.					
Tertiary sports leaders are adequately equipped with the strategic agility skills needed to adapt to technological changes in their environment.					
Tertiary sports organizations include digital innovation initiatives in their strategic planning					
Tertiary sports organizations have the resource capacity needed to implement and sustain digital initiatives.					
Tertiary sports leadership engages key stakeholders such as athletes, coaches, fans, and sponsors in the formulation of digital transformation strategies.					
Tertiary sports have a regulatory framework and guidelines that promote the adoption of digital technologies.					

7. The impact of the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations on their management and technical performance.

Impact of current levels of adoption	SD	D	N	A	SA
The current levels of adoption of digital coaching resources have impacted positively athlete development and improved the technical performance of Zimbabwean Tertiary Institutions in global student sports competitions.					
The current levels of adoption of digital events management technologies have raised sports events management practices in Zimbabwean Tertiary sports to world-class levels.					
The current levels of adoption of digital officiating resources have raised sports officiating standards in Zimbabwean Tertiary sport to world-class levels.					
Digital technology in tertiary sports has revolutionized the way fans interact with sports.					
Digital technology has revolutionized product and service marketing in Zimbabwean tertiary sports .					
There are advanced analytics allowing teams and coaches to make informed decisions about player performance and game strategies.					
Digital innovation in tertiary sports has transformed stadiums into smart venues with mobile ticketing to high-speed Wi-Fi interactive screens.					
Tertiary sports have introduced digital devices and sensors to track athlete movement and prevent injuries.					

8. What strategies can be adopted to stimulate digital innovation in Zimbabwe's Tertiary sports?

……
……
……
……

Appendix 2: Interview Guide

INTERVIEW GUIDE FOR TERTIARY SPORTS ORGANISATIONS IN ZIMBABWE AND THEIR STAKEHOLDERS. (MINISTRY OF SPORTS, SRC, ATHLETES, SPONSORS, AND THE MEDIA)

Instructions

Each participant will be identified using codes. During the interviews, interviewers and interviewees must not identify themselves by name, job title, or company. It is not permitted to use personal information or examples that may be used to identify you or other people present. The conversations will be taped and transcribed afterwards. There are no compulsory questions, and your contributions are strictly confidential.

1. Can you describe the current levels of adoption of digital innovation in the coaching functions of Zimbabwe tertiary sports organizations?
2. Can you describe the current levels of adoption of digital innovation in the officiating functions of Zimbabwe tertiary sports organizations?
3. Can you describe the current levels of adoption of digital innovation in the event management functions of Zimbabwe tertiary sports organizations?
4. Can you describe the current levels of adoption of digital innovation in the marketing of Zimbabwe tertiary sports products and services?
5. Can you describe the current levels of adoption of digital innovation as an injury management tool in Zimbabwe tertiary sports organizations?
6. Can you describe the current levels of adoption of digital innovation as a clean sport behaviour-promoting tool in Zimbabwe tertiary sports organizations?
7. What factors are responsible for shaping the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations?
8. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their management performance?
9. What impact do the current levels of adoption of digital innovation in Zimbabwean Tertiary sports organizations have on their technical performance?
10. How can strategic agility principles be used to overcome resistance to change and stimulate the adoption of digital innovation in Zimbabwean Tertiary sports?

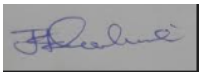
Appendix 3: Informed Consent Form

INFORMED CONSENT FORM

Purpose of study:
You are being asked to participate in a study that seeks to **" Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sport.**"

Conditions for Participation:

1. I have volunteered to take part in a study project run by the Sports Science Department at Bindura University of Science Education.
2. I am aware that I will not be compensated for my participation.
3. I understand that even if I agree to participate now, I have the right to withdraw at any time or refuse to answer any question without consequence.
4. I accept that all information I provide for this study will be kept private.
5. I understand that my identity will be kept anonymous in any report based on the findings of this research.
6. I accept that my interview excerpts may be used in the research report and subsequent publications.
7. I consent to have my interview taped.
8. I realize that the original audio recordings and data transcripts will be kept at the Bindura University of Science Education for six months before being erased.
9. I am aware that signed consent forms will be kept on file at Bindura University of Science Education.
10. I understand that I have two weeks following the interview to withdraw consent to use data from my interview, in which case the content will be erased.
11. I accept that my identity will be safeguarded and that I will be given a code name or number.
12. By signing this form, I certify that the objective and nature of the study have been communicated to me and that I have had the opportunity to ask questions regarding the study and fully understand the nature and character of my participation in this research. I also willingly consent to take part in the investigation.
13. This consent form has been given to me.

Name of Research Participant: Jonhasi S. T Signature:  **Date: 22/03/24**

Name of Principal Investigator:…….Signature: **Date**:……..

Appendix 4: Confidentiality Agreement

CONFIDENTIALITY AGREEMENT

This agreement is between:

Individuals Receiving the Information: Jonhasi Steward. Tinashe

and

Name of Individual Disclosing the Information:

……

for

A Research Project Entitled:

" Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sports."

AGREEMENT

1. For purposes of this Agreement, the term "**Confidential Information**" means any of the following:

(i) nonpublic information relating to the Parties' technical or non-technical data, know-how, algorithms, formulas, patterns, compilations, programs, devices, methods, research and development data, computer source and object code, trade secrets, recipes, techniques, drawings, processes, products, services, or lists of actual or potential customers or suppliers, technology, business plans and methods, promotional and marketing activities, finances and other business affairs;

(ii) third-party information that the Parties are obligated to keep confidential; and (Personal information is under the custody or control of the Parties.

2. The discloser aims to reveal secret material to the study's recipient.

3. The recipient agrees not to use the confidential information for any other reason than the study's purpose without first getting the discloser's written consent.

4. To store personal information, strong password-protected PCs will be employed.

5. The two computers will be accessible only to two members of the study team who have signed this agreement.

6. Identifiable information will also be utilized in ways unrelated to the providers.

7. Confidential information shall be provided to the disclosing party upon request or destroyed within thirty days of the study's conclusion.

8. If the receiving parties breach this agreement, the disclosing party is entitled to injunctive action, including specific performance, as a matter of right.

SIGNED:

a. Individuals Receiving the Information:

1. Name:…….. Signature:…….. Date:……..

2. Name……Signature …… Date……

b. Individuals Disclosing the Information:

1. Name……Signature ……Date…….

c. Witness:

1. Name……Signature ……Date…….

Appendix 5: Study Authorization letter from Bindura University of Science Education

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE AND ENGINEERING

P. Bag 1020
BINDURA, Zimbabwe
Tel: +263662106134/0772916712
info@buse.ac.zw

DEPARTMENT OF SPORTS SCIENCE

TO WHOM IT MAY CONCERN.

RE: POSTGRADUATE DISSERTATION STUDY ACCESS REQUEST.

This is to certify that **Jonhasi Steward Tinashe (B226237B)** is a bonafide Master of Science in Sports Management student in the Department of Sports Science at the Bindura University of Science Education. He is conducting an action research study entitled: **" Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sport."**

We are kindly requesting your organization to partner with him in the study by participating in the data collection and intervention strategy development process.
Participation in this research is completely voluntary and you may choose to withdraw from the research at any time. The information from your organization will only be used for academic purposes and be kept private and confidential. Codes will be used to identify participant organizations. This is meant to ensure that information would not be linked to the providers. Password-protected computers will be used to store any identifiable information that may be obtained from your organization. Data will also be analyzed at the group level, to ensure anonymity. You can also sign confidentiality agreements with the researcher.

A copy of the finished work will be provided to your organization after the study. The results of the study are expected to transform practice and your support will be pivotal to its success.

If you have any queries regarding this project, please phone me on 0772916712, or lysiastapiwacharumbira1968@gmail.com or lcharumbira@buse.ac.zw

We would like to thank you in advance for your support.

Yours Sincerely

Lysias Tapiwanashe Charumbira (Dr.) **Chairperson**

BINDURA UNIVERSITY OF SCIENCE EDUCATION
SPORTS SCIENCE DEPARTMENT
P. BAG 1020
BINDURA, ZIMBABWE

Appendix 6: Study Authorization letter from the Ministry of Higher Education

All official communications should be addressed to
"The Secretary for Higher & Tertiary Education
Telephones: 795891-5, 796441-9, 730055-9
Fax Numbers: 792109, 728730, 703957
E-mail: thesecretary@mhet.ac.zw
Telegraphic address: "EDUCATION"

ZIMBABWE

Reference:

MINISTRY OF HIGHER AND TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT
P. BAG CY 7732
CAUSEWAY

08 February 2024

Mr Stewart T. Jonhasi
C/o Belvedere Technical Teachers' College

AUTHORITY TO CARRY OUT RESEARCH IN MINISTRY INSTITUTIONS: MINISTRY OF HIGHER AND TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT

Reference is made to your letter dated 09 January 2024 in which you requested for permission to carry out a research on **"USING STRATEGIC AGILITY PRINCIPLES TO STIMULATE DIGITAL INNOVATION IN ZIMBABWE TERTIARY SPORT"**

Accordingly, please be advised that the Head of Ministry has granted permission for you to carry out the research in Zimbabwe Tertiary Sport Institutions.

It is hoped that your research will benefit the Ministry and it would be appreciated if you could supply the office of the Permanent Secretary with a final copy of your study, as the findings would be relevant to the Ministry's strategic planning process.

MIN. OF HIGHER & TERTIARY EDU., INNOVATION, SCIENCE & TECHN. DEV. HUMAN RESOURCES
08 FEB 2024
P. BAG 7732, CAUSEWAY
ZIMBABWE

Mazani V. (Mr)
FOR: SECRETARY HIGHER AND TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT.

Cc: File

Appendix 7: Study Authorization letter from the Ministry of Sport, Recreation, Arts and Culture

All communications should be addressed to "The Secretary for Youth, Sport, Arts and Recreation"
Telephone: 242 708373, 708348

ZIMBABWE

Ministry of Sport, Recreation, Arts and Culture
Chinengundu-Mashayamombe Building
95 N. Mandela & S. Muzenda Streets
P.O Box HR480
Harare

11 January , 2024

Attention: Mr Steward Jonhasi

PERMISSION TO UNDERTAKE YOUR RESEARCH ENTITLED: USING STRATEGIC AGILITY TO STIMULATE DIGITAL INNOVATION IN ZIMBABWE TERTIARY SPORT.

The above subject matter refers,

Permission has been granted to Mr Steward Jonhasi B224237B to undertake his research entitled, "**Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sport.**"However,you need to seek for more clearance from Ministry of Higher and Tertiary Education, Science and Technology Development.

We hope and trust that the Ministry of Sport ,Recreation, Arts and Culture, Ministry of Higher and Tertiary Education , Science and Technology Development and other sports institutions will benefit from the study.

Kindly note to share your findings when the reseach is complete.

Your Faithfully

I. Vambe (Mr)
ACTING DIRECTOR SPORT AND RECREATION

MINISTRY OF SPORT, RECREATION, ARTS AND CULTURE
PERMANENT SECRETARY
11 JAN 2024
P.O. BOX HR 480
ZIMBABWE TEL: 0242-708373

1

Appendix 8: Study Authorization letter from Zimbabwe Tertiary Institution Sport Union

ZTISU

ZIMBABWE TERTIARY INSTITUTIONS SPORTS UNION

A member of CUCSA (Confederation of University and College Sports Associations) ZONE VI

"All correspondence to Current President" P.O. Box CY1971, Causeway, Harare

09 January 2024

Mr S. T. Jonhasi
Belvedere Technical Teachers' College
Harare

Dear Sir

REF: PERMISSION GRANTED TO UNDERTAKE A RESEARCH STUDY.

Your request to conduct a research study titled **" Using Strategic Agility Principles to Stimulate Digital Innovation in Zimbabwe Tertiary Sport"** is granted.

we wish you well, in your endeavour.

Yours in Sport

Machesu Isaac

Secretary-General

Appendix 9: Study Authorization letter from Sports and Recreation Commission

SPORTS AND RECREATION COMMISSION

Zimbabwe National
Sports Stadium, GATE 5
Samora Machel Avenue West
Belvedere, Harare,

P.BAG BE 108,
Belvedere, Harare
Zimbabwe

+263 777 067 304
+263774 246 921
info@src.org.zw
www.src.org.zw

16 January 2024

Mr Steward Tinashe Jonhasi
Belvedere Technical Teachers College
BE 100, 1 Havard Rd
Harare

Dear Mr S. T. Jonhasi

APPROVAL TO CONDUCT RESEARCH

Reference is made to your request to conduct research with the assistance of SRC in pursuit of your Master's Degree in Sports Management.

We are pleased to inform you that your request has been approved. Please be advised that because your research area is relevant to the mandate of Sports and Recreation Commission. The SRC would require that upon completion of your research, you submit a copy to the SRC.

We wish you all the best in your studies.

Yours faithfully,

Eltah Nengomasha
Director General