



BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT OF SPORTS SCIENCE

**The Adoption of Digital Technology: The Role of GPS Tracking in
Monitoring Player Load in the Zimbabwe Premier Soccer League (ZPSL).**

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DEDICATION

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ABSTRACT

The study investigates the adoption of digital technology, specifically Global Positioning System (GPS) tracking in monitoring player load within the Zimbabwean Premier Soccer League (ZPSL). It explores how GPS technology influences player performance, injury prevention, and welfare. A mixed method approach was employed combining quantitative surveys with qualitative interviews to better understand technology usage and challenges. The study targeted professional football coaches and technical staff across ZPSL, clubs, with 100 survey respondents and 15 purposively selected interview participants. Quantitative data were analysed using SPSS, while NVivo facilitated thematic analysis of qualitative data. Findings revealed a growing awareness and positive perception of GPS tracking benefits, particularly in improving player performance and reducing injuries. However, implementation remains inconsistent due to limited training in data interpretations, financial constraints, and resistance to technological changes. ANOVA results showed that insufficient training was statistically significant barrier ($p=0.025$). Thematic analysis identified five key themes training and education, data integration, communication and engagement, technical support, and player motivation. Participants emphasised that continuous professional development and collaborations between coaches, players, and management are critical for successful adoption. The study concludes that while ZPSL stakeholders recognise the value of GPS tracking, its potential is underutilised due to skill and resource gaps. The study recommends comprehensive training programmes, technical support systems, and policy-driven investments in digital infrastructure to enhance technology uptake and optimise player monitoring. These findings contribute to growing discourse on sports technology adoption in resource-constrained environments and provide a practical framework for improving player load management in Zimbabwe.

Keywords: GPS tracking, player load, digital technology adoption, performance monitoring, Zimbabwe Premier Soccer League.

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LIST OF ABBRIVIATIONS

ABBREVIATIONS	DEFINITIONS
ZPSL	Zimbabwe Premier Soccer League
GPS	Global Positioning System
FC	Football Club
LMS	Load Monitoring System
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Use of Technology
DOU	Diffusion of Innovations
IT	Information System
SPSS	Statistical Package for the Social Science
ANOVA	Analysis of Variance

CHAPTER ONE: THE PROBLEM AND ITS SETTING

1.1 INTRODUCTION

Morden performance and health of athletes now depends heavily on sports technology and how it relates to football. This study will introduce the usage of global positioning system (GPS) tracking, most importantly load monitoring systems (LDS), to regulate the athlete load in the Zimbabwe Premier Soccer League (ZPLS). The purpose of this work is to understand the challenges and opportunities to implement LDTs into the ZPLS that is often difficult to move from traditional methods to evidence based data informed training. This chapter will explore the background and statements of the problem, research questions and also the research objectives. There will be also summary of the chapters that include the introduction, an example of the limitations of the study, and a discussion of the significance of the study. This chapter will also provide an analytic frame of reference for understanding the activities at play, and foundation for discussion and how GPS technology can effectively introduced in enhancing player performance and management in the ZPSL.

1.2 BACKGROUND OF THE STUDY

This research study tries to investigate the application of digital technology, with main focus on the usage of GPS tracking of athlete load during the playing season of Zimbabwe Premier Soccer League (ZPSL). The main focus of the study is if and how such technologies assist and adopted in injury prevention, increase player performance and to a certain extent improve the overall management of teams. Increased awareness of how to use such developments is essential for the ZPSL clubs to develop and its players to thrive as football becomes a more data driven sport. The ZPSL was founded in 1980 and is the professional soccer league in Zimbabwe representing the highest level of division. It comprises a range of clubs, all with dedicated supporters and histories. The ZPSL faces many challenges, including financial, outdated training regimes, and poor player management. The challenges are further exacerbated by slow uptake of innovative technologies to assist performance tracking and training.

Despite growing global evidence supporting the benefits of GPS tracking in professional football, there is a clear **literature gap** regarding its adoption and contextual challenges within

African and, particularly, Zimbabwean leagues. Most prior research, such as Buchheit and Simpson (2017) and Malone et al. (2017), has focused on elite European or Australian leagues, providing little insight into developing nations' socio-economic and infrastructural realities. Furthermore, studies by Ogunjimi et al. (2020) and Moyo et al. (2020) highlight that African sports contexts remain underrepresented in sports technology adoption research, especially regarding organizational culture, financial limitations, and the readiness of technical staff. This study seeks to **bridge these gaps** by providing empirical data from the Zimbabwe Premier Soccer League (ZPSL), a resource-constrained yet competitive environment. Integrating quantitative and qualitative evidence contributes to understanding how localized factors such as training access, funding availability, and managerial attitudes affect technology implementation and athlete welfare. Consequently, this research extends global sports technology frameworks, such as the Technology Acceptance Model (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2012), to the African football context.

The primary consideration being investigated is the underutilization of digital technology, particularly GPS tracking, to monitor player loads. The long-term impact on the competitiveness of teams within the league may be affected in two ways which is increased injury levels and poor player performance, potentially increasing as they all continue to disregard technology based on personal opinions or ignorance. Kavanagh (2023), puts out that the physical demands of soccer have built up a framework for clubs to begin utilizing systems where clubs are able to measure and benchmark performance for a player. The researcher loves sports science and technology, especially data-informed practices that build player athletic performance, which is why he is passionate about this issue. Following the demonstration of benefits from the usage of GPS technology in other leagues such as the, English Premier League and La Liga, the researcher is enthusiastic to investigate the implications of GPS technology on the ZPSL. This study is modern and relevant since, with the correct implementation of GPS tracking, it could be used to significantly improve player management, decrease injuries, and ultimately improve team performance as a whole.

The adoption of GPS tracking technology in the Zimbabwe Premier Soccer League (ZPSL) is influenced by several **unique cultural, economic, and logistical factors** specific to the local sporting environment. Culturally, many clubs and coaching staff still rely on **traditional coaching philosophies** emphasizing intuition and physical observation over data-driven

decision-making (Moyo et al., 2020). This has created a degree of skepticism toward sports analytics and technology, which are often perceived as complex or foreign to the local football culture. Economically, the ZPSL operates in a context of **financial instability**, with most clubs depending on limited sponsorships and gate revenue (Nhamo & Mhlanga, 2019). Such constraints restrict the ability to purchase and maintain GPS units, train staff in their use, or pay for accompanying software licenses and data management services.

Additionally, logistical challenges such as **inconsistent internet connectivity**, lack of technical support, and poor access to reliable electricity or digital infrastructure in some training facilities hinder consistent technology implementation (Chingwaru, 2021). These factors collectively limit the scalability of digital innovations across clubs. Consequently, while there is growing awareness of the value of GPS tracking, translating **that awareness into practice** is slow and uneven across the league. Addressing these socio-economic realities is therefore critical to ensuring that technological adoption aligns with Zimbabwean football's **local capacities and cultural attitudes**.

Recent studies highlight the importance of utilizing GPS technology to measure player load in varying competitive contexts. Buchheit & Simpson (2017) and Malone et al. (2017) have reported that measuring and monitoring load can potentially enhance performance and decrease the risk of injury. For example, in their study with elite youth soccer players, Malone et al. (2017) found that there was a relationship between training load and performance outcomes; thus, the appropriate management of load is crucial for optimal athletic performance. Few studies have examined the application of technology in African leagues like the PSL. As technology in sports has been studied worldwide, Ogunjimi et al. (2020) noted that African league dynamics and issues are unknown. Since various leagues represent different financial realities, cultural conceptions of technology, and fixed resources, the inattention is troubling.

1.2.1 The current literature reveals several important gaps:

1. Most studies focus on European and American leagues, thus little is known about African leagues' specific intricacies and obstacles. Compared to industrialised leagues, PSL findings are harder to apply (Ogunjimi et al., 2020).
2. Implementation Issues: GPS tracking in resource-constrained contexts is poorly documented. Financial restrictions and a lack of understanding and skills make PSL clubs less able to use modern technologies.

3. **Cultural Acceptance:** There are likely many cultural views on using technology and how it impacts play in sport. For successful implementation, it is imperative to understand how these dynamics exist in the local context, however, that is not always included in the current literature. Best practices in soccer technology adoption highlight the importance of incorporating GPS tracking into coaching strategies and athlete welfare practices. For example, clubs like Manchester City and FC Barcelona now use GPS technology to monitor a player's training load in training environments, and have improved tactical decisions as a result of enhanced performance (Mallo & Navarro, 2019); these successes illustrate how a better understanding of GPS tracking could leverage a player's performance on and off the field.

In contrast, ZPSL teams generally use traditional training methods that often limit the benefits of modern technological advances. Many clubs do not exploit the benefits of GPS tracking due to the lack of synergy from training methods and contemporary data assessments, creating a practice gap that indicates the need for targeted strategies to develop a culture that has significance in technology use within the ZPSL. ZPSL teams face challenges in adopting GPS technology owing to challenges such as economics (finances), lack of technical knowledge and a resistance to change by stakeholders. The aforementioned challenges are preventing the potential ways the technologies that are present could and should be used to impact player performance and regime management.

Addressing these gaps is critical for expanding the ZPSL. As the league's performance improves, even slight reductions in injury prevalence, in addition to improved player management via technology, will render it a more competitive league. Thus, this study is timely and relevant because results may provide ZPSL clubs with actionable information that can form the basis for closing the gap between standard accepted practice, and current player load management practices. This study employed a mixed-methods approach comprising qualitative interviews with coaches, athletes, and sports scientists, together with quantitative analysis of GPS data. This study examined player load metrics with the methodology involving collection of GPS data from teams volunteering to take part in the study. To identify stakeholder perspectives on GPS technology adoption, interviews were conducted to gain feedback on the perspectives and experiences of stakeholders related to GPS technology adoption. The holistic approach of this study will elicit barriers to implementation, while also providing potential solutions to address these.

Understanding how these developments will impact leagues like ZPSL is important as soccer continues to capitalize on the rapidly transforming digital landscape. This study aims to demonstrate how technology is now being positioned within Zimbabwean soccer and offer ways to better utilize GPS tracking to aid player health and performance. As discussing the use of technology in sport is relatively new, relatively uncharted, particularly in regards to emerging leagues such as ZPSL, the study is intended to fill in some of the gaps for future advancement.

1.3 STATEMENT OF THE PROBLEM

This study finds that the Zimbabwe Premier Soccer League underuses GPS tracking to check player load. Despite GPS devices improving player performance and lowering injury rates, numerous ZPSL teams maintain outmoded training techniques that preclude them from using them. GPS restrictions hamper player management and team competition. Coaching and player complaints about disorganized physical demand monitoring and high league injury rates signal a big issue. Load management issues can cause injuries, fatigue, and player development (Malone et al., 2017). ZPSL clubs have underperformed globally outside of football, indicating a need for new training methods.

Thus far, the practice in the ZPSL has not addressed this issue. Some clubs have started to investigate the usefulness of digital technologies, but limited resources, technical knowledge, and perceptions towards any form of change all restricted adoption. In addition, little is known with regards to research specifically orientated to Africa soccer leagues, like the ZPSL, which is evident in the literature currently available. This reduces the transferability of findings from more technologically developed leagues (Ogunjimi et al., 2020). There are different reasons why this problem needs to be solved. Firstly, GPS technology can improve player load management and improve player well-being, with the search for reducing injury and optimal performance. Secondly, the ZPSL can become much more competitive and compete better at a regional and cosmopolitan level through the use of current technologies. As a result, this research aims to provide useful information that will assist ZPSL clubs adopted GPS technology effectively.

This research used a mixed-method design to identify solutions to the current issue by combining qualitative interviews with coaches and players and quantitative analysis of GPS data. This method provided careful understanding of the barriers to using technology and

context specific recommendations for the ZPSL. The research aimed to create workable solutions to embed GPS monitoring in athletes management approaches in the aim to encourage an amateur context in the culture of innovation and social improvement in soccer in Zimbabwe.

1.4 SIGNIFICANCE OF THE STUDY

The significance of the study lies in its ability to address the well-documented problem of the underutilization of GPS tracking technology within the Zimbabwe Premier Soccer League (ZPSL). The research will investigate barriers to successful adoption of that technology to hopefully provide to the academic field and the practitioner a theoretical and practice contribution to sports management and performance improvement. It is expected that the outcomes of the study will provide useful advice to ZPSL clubs to successfully adopt GPS tracking systems. By identifying specific issues such as lack of technical know-how, financial constraints, and resistance to change, the study will help clubs develop action plans to implement their desired technology into their performance management and training practices.

A good example is that the study will provide some fairly inexpensive training courses that will give athletes and coaches an understanding of how to effectively use GPS devices. Similarly, to improve the technical capabilities of coaching staff and ensure they understand how to interpret and use GPS data meaningfully, the study will also propose some workshops and training sessions. These recommendations clearly provide practical applications that would seek to establish systems for monitoring player load that would not only reduce injury level rates but also enhance performance, which would ultimately improve player wellbeing. Furthermore, the study will provide new ideas for ways of using GPS data that work within in the context of ZPSL. By utilizing standardized processes for analysing and interpreting GPS data coaching staff will be able to make informed decisions about how to manage training loads and recovery. These recommendations promise significant improvements in the management of players, which will enhance on-field performance.

The policymaking decisions of ZPSL, as well as the governance process, and the larger Texas sports governance systems, will also be influenced by the study's findings. The study encourages club owners and league managers to utilize digital solutions that heighten competitiveness by showcasing the importance of technology adoption in the realm of player management. The study's findings can be a solid foundation for introducing policies that promote the use of technology to incorporate into training and education programs for various

sporting codes. Such policies will enhance player management skills across the entire league and help to set a new standard for Zimbabwean soccer, therefore creating an environment where innovation can flourish. Theoretical-wise, the intention of the research was to address knowledge voids surrounding technology adoption in Africa's soccer leagues highlighted in the previous literature. It was appropriate to focus on the ZPSL as it will allow for more exploration of the specific opportunities and challenges facing clubs within deficient resources settings. Knowledge that is situated within this particular context is vital to the development of a more nuanced framework for deciding about technology adoption in sport and ultimately supporting future research projects even in slightly similar contexts.

The study will take advantage of available theories regarding technology acceptance and sports management. It will provide empirical evidence of the need for tailored strategies in different cultural and economic environments. This contribution is vital to advancing the discussion around whether, and how, digital technology can enhance player welfare and physical performance, especially in emerging leagues. The research will include a thorough dissemination plan to make sure the academic community and industry people have awareness of the research outputs:

1. Awareness of Results by Industry Stakeholders:

There will be workshops and seminars that will include all PSL teams, coaches, and administrators organized that will disseminate the findings of the research study and discuss the implications of the findings in practice. By allowing the participants to engage with the information and respond directly, the workshop/seminar formats encourages a collaborative approach to technology adoption. To ensure access to documents for all stakeholders to utilize in their own decision making, all ZPSL teams and relevant sport organizations will receive informative briefs that summarize the key findings and recommendations.

2. Published in Academic Sources:

The study outcomes will be published in peer-reviewed academic journals that relate to technology, sports science, and management. Journals that are well-regarded in the field will be our target, Sports Medicine and the Journal of Sports Sciences. The study will also be submitted to grey literature where our authorship can cover a heightened audience made up of practitioners and policy broker venues, such as conference and industry proceedings.

3. Prior Publications:

To build credibility to the researchers and demonstrate a commitment to engage in the scholarly community on sports technology, previous relevant research will be documented.

To sum up, the research could make significant practical and theoretical contributions. The research will create innovative solutions to the challenges related to the adoption of GPS technology, contribute to policy-making practices, address the gaps in the literature, and help advance soccer in Zimbabwe and beyond, promoting a more competitive and health-minded environment with the ZPSL. With effective dissemination of the research findings, enable better player management practices, and subsequently better performance outcomes of the league. Stakeholders of the industry and the academic community will benefit from the knowledge generated through this research.

1.5 RESEARCH QUESTIONS

1.5.1 Primary Research Question

How can the adoption of GPS tracking technology improve player load monitoring in the Zimbabwe Premier Soccer League (ZPSL)?

1.5.2 Subsidiary Research Questions:

1. What is the current level of GPS technology adoption among ZPSL clubs for monitoring player load?
2. What factors contribute to the challenges faced by ZPSL clubs in adopting GPS tracking technology?
3. What strategies can be implemented to enhance the effective use of GPS tracking systems in ZPSL clubs?

1.6 RESEARCH OBJECTIVES

1.6.1 Primary Objective

To explore the adoption of GPS tracking technology for monitoring player load in the Zimbabwe Premier Soccer League (ZPSL) and its potential impact on player performance and injury prevention.

1.6.2 Specific Objectives

1. To determine the current level of GPS technology adoption among ZPSL clubs for monitoring player load.
2. To identify the factors that can contribute to the challenges faced by ZPSL clubs in implementing GPS tracking technology.

3. To explore effective strategies that can enhance the use of GPS tracking systems in ZPSL clubs to improve player management.

1.7 DELIMITATION OF THE STUDY

This research is contained to the Zimbabwe Premier Soccer League (ZPSL) with an explicit focus on the ZPSL's monitoring of player load based on the current influx of technology that clubs monitor data from Global Positioning Systems (GPS). Since the ZPSL is Zimbabwe's highest professional soccer league, and usage of technology can have huge impacts on player performance and injury management, the selection is valid. By focusing directly on the ZPSL, this research intends to focus on the specific barriers and opportunities that clubs experience from the point of view of implementing GPS technology - all of which are highly relevant to Zimbabwean soccer context. The findings will be useful and relevant for league stakeholders because of the targeted research.

1.8 STUDY OUTLINE

Chapter 1: Introduction

This chapter describes the research problem, where the background and the significance of the topic is described. It provides a foundation for discussing the application of GPS monitoring technology in the Zimbabwe Premier Soccer League (ZPSL). It reflects the research topic, purposes, and specific research questions. The conclusions provide a short explanation of the constraints on the study and the data collection approach.

Chapter 2: Literature Review

A comprehensive review of literature is discussed in details in this chapter. With a focus on GPS devices, it discusses relevant literature on digital technology use in sport. Key points of discussion include, the existing literature on player load analysis and monitoring, uniqueness of African soccer competition, and the technology opportunities and challenges in managing players. The objective of this chapter is to narrow the gaps in the existing literature that have to be filled in the framework of the current investigation.

Chapter 3: Methodology

The design and method of this study are described in this chapter. It elaborates on the methodology employed to investigate the topics through surveys, interviews, and other means of data collection and why it is conducted in this manner. This chapter also discusses the sample

plan, data analysis procedures and ethical considerations to ensure the truth and objectivity of this study.

Chapter 4: Findings and Discussion

The results are available in this chapter. GPS tracking in the ZPSL is then examined and the key results of this study are discussed in light of what this means for practice and with regards to constraints and stakeholder perceptions. A discussion is drawn that encompasses the results and the literature and which relates the results to an explicative role concerning the study problem and the aim.

Chapter 5: Conclusion and Recommendations

Profile the following profile of participants is a group profile based on the numerous group and individual descriptions from the professional building participants in profile and focus groups.

In the concluding part of the last chapter the main findings of the study and the implications for the ZPSL and for level sport management are presented. It offers guidance as to how clubs might use GPS tracking technology and other potential avenues of investigation. The chapter concludes with reflections on the work that was accomplished in relation to the field and its likely impact on player management in Zimbabwe football.

1.9 CHAPTER SUMMARY

The chapter set the scene for the research topic by deliberating the need for studying GPS tracking technology adoption in Zimbabwe Premier Soccer League. It outlined the research problem, objectives, and questions dictating the study, alongside providing the delimitations of this study. The introduction opened the doors for a literature review in the very next chapter. The second chapter will hence give an in-depth treatment of secondary studies and theories concerning the adoption of digital technology in sport with particular focus on GPS tracking systems and their effects on player and management performance.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter starts with an extensive literature review that sets the theoretical foundation of how adoption of GPS tracking technology in the Zimbabwe Premier Soccer League (ZPSL). This review was conducted in order to critically review the terms and concepts related to digital technology adoption, GPS tracking systems, and the monitoring of player load. Through a review of literature, this chapter shows the importance of these concepts in sports management and in the optimization of performance. The review will highlight the gaps in the literature that the present study tries to fill.

2.2 CONCEPTUAL REVIEW

2.2.1 Digital Technology Adoption

Digital technology adoption is the process through which an organization or a firm adopts new technological developments. It has been the object of study of scholars, such as Rogers (2003), who have conceptualized it (i.e., conceived the concept) under the innovation-diffusion framework considering perceived usefulness and ease of use as essential determinants of its adoption. Steadily, the empirical body of work have extended towards considering the role of organizational culture, as well as external forces on adoption (Venkatesh et al., 2012). Whether technology adoption is driven by financial constraints or by head teachers support is still contested, illustrating the complexity of the matter.

2.2.2 GPS Tracking Systems

GPS tracking systems are used as technological devices to track athlete movement and performance parameters during training and competition. Developed primarily for military purposes, the application of GPS in sports has expanded in a big way since the beginning of 2000s (Cummins et al., 2013). Savvy academics have investigated its utility as a window into real-time player load – a concept absolutely key to avoiding injury and performing as well as possible. A limit to this type of analysis is that GPS data are very sensitive to the environment in which athletes perform, which can result in ambiguous data interpretation in some cases (Buchheit & Simpson, 2017).

2.2.3 Player Load Monitoring

The monitoring of the load of players, the evaluation of the training and match demands imposed on players. This idea has been adopted in the field of sports science with researchers also noting its critical role in facilitating the optimization of training and in minimizing the risks of injuries (Impellizzeri et al., 2004). This concept has evolved from an emphasis on pure quantitative assessments of player health towards a more widely accepted understanding that better encapsulates qualitative factors relating to player wellbeing. However, views are divided regarding the most appropriate techniques for assessing player load, with some academics recommending the use of a combination of objective and subjective measures (Halson, 2014).

2.2.4 Conceptualization in the Present Study

The phrases above are also defined as inter-related factors that impact on the successful adoption of the GPS technology in the ZPSL. The adoption of digital technology is discussed in the context of organizational and cultural acceptance in the league. The use of GPS tracking systems is positioned as devices that are valuable in monitoring player load, a practice needed for more accurate athlete management. By combining these thoughts the paper seeks to give a rich insight into the use of technology to enhance player performance within the Zimbabwean football environment.

2.3 THEORETICAL REVIEW

Theoretical Issues in GPS Tracking Technology Adoption in ZPSL This section discusses theoretical perspectives that are relevant in the ZPSL with regard to the adoption of GPS tracking technology. From the review of these theories the research questions and objectives can be derived from gaps and trends.

2.3.1 Key Theories

1. The Technology Acceptance Model (TAM)

Contributors: TAM introduced by Davis (1989), states that two main beliefs, perceived ease of use and perceived usefulness, will directly affect the acceptance and use of a given technology by an individual.

Relevant Themes: The conceptual framework focuses on psychological considerations influencing user acceptance and elaborates these considerations in an attitude model toward technology use.

Weaknesses: TAM can be generalized to a wide range of settings and presents a simple, clear-cut structure for investigating user behaviour.

Limitations: The approach may oversimplify organizational dynamics and external factors influencing technology adoption. Recent research has expanded the TAM model to include social impact and supportive situations (Venkatesh et al., 2012), highlighting its dynamic nature.

2. Diffusion of innovations theory (DOI)

Contributors: Rogers (2003) proposed this hypothesis to explain innovation adoption in organizations, focusing on characteristics, communication routes, and social systems.

Themes treated: DOI focuses on social mechanisms and on contextual inertia and acceleration suspending or smoothing a new technology up.

Contributions: The proposed model provides a better understanding of the impact of social network and organizational culture towards technology adoption.

Weaknesses: DOI effectively focuses on collective behaviours, but it is not useful for the purpose of resolving the ontology residue problem and might fail to fully consider an individual's resistance against change. Its importance has been further demonstrated in recent applications in different domains, such as digital health, where social networks have a major role in adoption (Greenhalgh, Bhattarai, and Car, 2017).

3. Unified Theory of Acceptance and Use of Technology (UTAUT)

Contributors: Venkatesh et al. (2003) combined multiple theories i.e., TAM and DOI, and introduced UTAUT which includes the fundamental components of performance expectancy, effort expectancy, social influence, and facilitating conditions.

Covered Constructs: UTAUT accounts for both individual and organizational constructs that influence technology use, offering an inclusive structure for explaining adoption behaviour.

Pros: A holistic view is more theoretically correct than the view in which the factors that influence technology adoption are fragmented in nature and also explain technology adoption in multiple fields, such as sports management.

Weaknesses: The complexity of it can be a limitation to practical application as it is a multi-dimensional theory.

2.3.2 Similarities and Differences

The three theories have some similar dimensions with respect to user perceptions and organization in technology acceptance. TAM is mainly concerned with individual attitudes, while DOI looks at broader social effects, and UTAUT combines several influences into a coherent model. The main distinguishing factor is the scope – TAM is perceived as individual-level, DOI and UTAUT are seen as organization-level and social-level, which is particularly suitable to analyse the dynamic environment like that of the ZPSL.

2.3.3 Strengths and Limitations of the Study

1. TAM provides a valuable framework for gaining insights into the attitudes of coaches and players toward GPS technology as an individual level variable, but it runs the risk of overlooking wider organisational barriers that would impact its adoption.
2. DOI gives valuable information about how the ZPSL could incorporate GPS technology more effectively but it may not explain the idiosyncratic aspects of resistance to adoption.
3. The UTAUT has a sound theoretical base that is in line with the intention of this study but it is complicated and may need modification to be pertinent within the Zimbabwean soccer context.

2.3.4 Paradigm Shifts

Over time there has been a huge shift in the mindset about technology adoption. Once considered as a personal choice, latter studies have increasingly acknowledged the intricate coalescence of social, organizational and technical issues determining adoption. This reorientation highlights the importance of cultural and contextual aspects to be taken into account when implementing technology in elite sport. Theories were chosen as a starting point. The UTAUT model theory is considered the most appropriate theory for this research. Its holistic nature, since it includes several factors affecting use of technology, is in line with the aims of this research. The UTAUT will be used as an analytical reference for the understanding of how GPS tracking technology might be integrated into the PSL approached to the individual and the organization.

2.4 THEMATIC REVIEW

This section categorizes the literature review into themes in line with research objectives on the adoption of GPS tracking technology in ZPSL. Strengths, limitations and implications of emerging trends in each of these themes is critically examined.

2.4.1 The Use of Digital Technology in Sports

A detailed literature search reveals an increasing number of studies that concentrate on the utilization of digital technology in sports. It has been reported that technology is capable of improving performance monitoring, training regimes, and player management (Smith et al., 2018). However, the majority of research is centred on developed countries, meaning that a gap exists in our knowledge of the manner in which these technologies are utilized in other parts of the world, and in African sports generally and Zimbabwean soccer in particular.

Strengths and Weaknesses:

Research has shown an explicit relationship between technology adoption and performance enhancement; however, it seldom takes into account context-related issues, i.e., factors such as organizational culture and resource availability that can have a substantial influence on the success rate of the adoption. For example, although Venkatesh et al. (2012) present a strong model for understanding technology acceptance, it may not capture all complexities relevant to clubs in the ZPSL.

Current Trends and Gaps:

A new development as indicated above is the growth of an awareness of the necessity for studies that are locally based and take into account cultural and economic influences on the adoption of technology in sports (Moyo et al., 2020). The lacuna is in holistic studies that are tailor-made to the Zimbabwean context.

2.4.2 Use of GPS and Player Load Technology

There has been much written on the use of GPS tracking technology for player load monitoring, particularly in the context of performance enhancement as well as injury prevention (Cummins et al., 2013). The study suggests that GPS data might help provide a window into training loads and player health more broadly.

Strength & Limitations

Both studies shows that the use GPS tracking trends in different sports is effective, however, it suffers from the issues of the accuracy of data interpretation of the data as well as utilizing quantitative data guideline in general (Buchheit & Simpson, 2017). Furthermore, other bias

may occur due to human interpretation from coaches and players about the information coming from these systems.

Emerging Initiatives and Peer Review:

There is a move toward integrating qualitative data (e.g., player feedback) with quantitative analysis in order to reinforce quantitative results (Halson, 2014). However, studies specifically targeting GPS tracking in the ZPSL setting are remarkably scarce.

2.4.3 Culture and IT Adoption in Organizations

The role of organizational culture on the adoption of new technologies in sport clubs is vital. It has recently been found, in fact, that innovation culture in tend to show more propensity towards technology adoption (Fletcher & Arnold, 2017).

Strength and weakness:

The significance of organizational culture is agreed, but many researches do not seem to provide thorough examination on how the cultural resistance could hinder technology adoption. In addition, most literature is Western based and therefore may not be directly transferable to Zimbabwe.

Trends and Gaps:

Requiring further attention, recent studies have been showing that these cultural elements must be taken into consideration in the effort of producing an adapted approach to a given location elsewhere (Katz & Kahn, 1978). Specific studies on the manner in which ZPSL clubs are culturalized in terms of the adoption of technology however remain scant.

Paradigm Shifts

In recent times, there have been important changes in the academic discourse of the adoption of technology, where it has shifted from a solely individual dimension to a broader approach that also includes organizational and cultural dimensions. This transformation mirrors a more general awareness of the challenges of technological integration.

2.5 CONCLUSION

Trends and gaps in the literature in this thematic review, we identify some prospects and limitations in the existing literature on the adoption of GPS technology in ZPSL. Key trends are the increasing awareness of the value of localized studies and of the importance of

qualitative information when monitoring performance. Yet, the level of training on the use of these technologies in Zimbabwean clubs is largely unknown. I want to contribute to such gaps, narrowing them with research in the ZPSL context, which can help inform better technologies adoption and manage players effectively.

2.6 CHAPTER SUMMARY

This chapter offered a review of the literature structured topically to the use of the GPS technology in the ZPSL. It was also a critical review which identified the pattern and the gaps in the study. The following chapter will present the method of work used in this research, both in terms of data collection and data analysis.

CHAPTER 3: MATERIALS AND METHODS

3.1 INTRODUCTION

This chapter provides an explanation of the research methodology used in this study. It explains the methodical procedures followed in studying the uptake of the GPS tracking

technology in the ZPSL. It covers the research methodology, research design, population and sample techniques, data collection techniques, and methods of statistical analysis. Further, ethical issues surrounding the conduct of this particular research will be discussed, with a view towards conducting this research in an ethical way and honouring the rights of subjects. It does so by establishing a strong structure of research methodology to ensure that the conclusions of the study are valid and reliable.

3.2 METHODOLOGICAL APPROACH

This mixed methods study used quantitative and qualitative methods to study Zimbabwe Premier Soccer League GPS monitoring. This approach combines quantitative data's statistical accuracy with qualitative insights' contextual richness (Creswell & Plano Clark, 2018). Survey data can provide coaches' and players' GPS technology attitudes. Qualitative interviews might include quantitative data on technology use and issues (Johnson & Onwuegbuzie, 2004). Triangulation promotes mixed methods research credibility and reliability, helping us understand technological integration.

3.3 TIME HORIZONS

A cross-sectional study assessed ZPSL GPS tracking. Cross-sectional studies can explain technology adoption attitudes by evaluating correlations and changes across time (Bryman, 2016). Cross-sectional research was chosen because it was faster, offered a snapshot in time, and was less time-consuming than longitudinal research. Cross sectional is relevant to ZPSL because on-the-ground insights may guide methods and decisions. The cross-sectional study surveyed and interviewed league stakeholders to analyse their GPS technology usage attitudes and practices.

3.4 RESEARCH STRATEGY

This research used a mixed method, a concurrent design type. The researcher used this strategy to combine qualitative and quantitative methods to study GPS tracking technology acceptance in ZPSL. Integrating quantitative and qualitative methods might help researchers overcome shortcomings and draw stronger results, according to Bryman (2006). This concurrent mixed methods technique allows simultaneous survey and interview data collecting, making it perfect for modern research. The quantitative element of this study was delivering a standard questionnaire to a diverse group of coaches and athletes to get GPS technology evaluations. The numerical data helped statistically assess technology uptake and correlations. The GPS

device adoption experience and concerns were further explored in qualitative interviews with a sample of users. The qualitative dimension brought meaning and colour to the outcomes that the quantitative statistics could not. The combined methodologies effectively addressed study topics from several angles, yielding more complete conclusions.

Conducting the concurrent mixed methods study took an immense amount of organization. The structured questionnaires were established on the basis of the literature and pre-tested for clarity and relevance. They were then circulated in hard and soft form through 36 training days to ensure the widest possible participation. Qualitative interviews were arranged to be completed simultaneously with a smaller purposively selected group of women and provide in depth exploration of their views. Adopting this mixed methods research approach, the goal of the study was to present a holistic overview of the perceptions, and adoption outcomes, of GPS tracking technology in the ZPSL and potentially the broader context of sports management.

3.5 POPULATION AND SAMPLING

3.5.1 Population

Sampling the study focused on professional football players and technical staff in the ZPSL. All current players and coaches at the clubs in the league would be affected. Since the ZPSL is dynamic in nature, an ideal situation would have been a census of the entire population but because of practicality (e.g. time and resource factors) and to optimize data collection without threatening the representativeness, the survey used a sampling approach.

3.5.2 SAMPLING PROCEDURES

The research used probabilistic and non-probabilistic methods of the sample selection to satisfy the qualitative and quantitative components of the investigation:

Quantitative Sampling (Probability Sampling), Stratified random sampling was used for the quantitative section. This method facilitated a representative cross-section of clubs within the ZPSL (Sharma, 2015). With a club stratification approach, the researcher hoped to achieve a sample that reflected a variety of views and experiences of GPS technology application. A random sample was selected from each stratum in line with probability sampling principles to increase the sample representativeness.

Nonprobability Sampling: The qualitative thread used purposive sampling, which enabled selection of participants according pre-established criteria based on the study's needs. Coaches

and players with experience in the area of GPS tracking technology monitoring were recruited to take part in interviews (Palinkas et al., 2015). This approach has been followed to capture the rich and detailed perception of those members who could lend rich information of owner's behaviour towards the adoption of the process and barriers experienced for the purpose in their clubs.

3.5.3 SAMPLE SIZE

Standard sample size formulae were used to calculate the quantitative sample size. Using a formula, for the operational field determined sample size of +-5% margin of error and 95% confidence level in a target population of about 300 players and coaches in ZPSL, n of 169 was required. The calculation was based on sample size tables and formulas proposed by Cochran (1977).

Figure 3.1: Sample Size Determination

Step	Calculation	Result
1. Calculate Ne^2	300×0.05^2	0.75
2. Calculate Z^2	1.96^2	3.8416
3. Calculate $\frac{Ne^2}{Z^2}$	$\frac{0.75}{3.8416}$	0.195
4. Calculate $1 + \frac{Ne^2}{Z^2}$	$1 + 0.195$	1.195
5. Final Sample Size Calculation	$n = \frac{300}{1.195}$	$n \approx 251.3$
6. Adjusted Sample Size	Adjusted to practical constraints	169

Figure 3.3 from: Cochran, W.G. (1977). "Sampling Techniques". 3rd Edition. New York: John Wiley

With regard to the qualitative sample size, theoretical sampling was implemented. Guest et al. (2017) propose that information saturation, where no novel information emerges, would lead to determine sample size. Proceeding from this and the depth of information needed, a sample of 15 to 20 participants for the qualitative interviews seemed adequate. This is consistent with advice from Saunders and Townsend (2018) that smaller samples can present rich data when exploring particular experiences. Using these sampling strategies, the study intends to enhance

the significance of the quantitative and qualitative data in explaining adoption of GPS tracking technology in the ZPSL.

3.6 DATA COLLECTION PROCEDURES

3.6.1 Pilot Study/Pre-test

A pilot study was pre-tested the instruments and procedures prior to the actual study. The inclusion field testing the structured questionnaire on a sample of 15 participants, consisting of players and coaching teams of different football clubs in the ZPSL. The purpose of the pilot was to detect uncertainties in the questionnaire and the clarity of the questions. The feedback from the participants was employed to revise the questionnaire and for an understandable, and relevant to research objectives, version of the final questionnaire. The pilot study was conducted after two weeks of a local training centre who facilitated easy access to potential participants used. Changes since the pilot were modifying the wording of some questions to reflect the target group, and checking that the response categories were relevant to participants' experience of GPS.

3.6.2 Main Study

The primary study continued for four weeks in which data were collected from a broader sample of participants from ZPSL. The structured questionnaire was supposed to be administered to 169 coaches and players however, reduced to 100 participants and in-depth interviews were carried out with 15 purposefully sampled participants that in some were users of GPS tracking devices.

3.7 DATA COLLECTION INSTRUMENTS

The primary data collection instruments used:

Structured Questionnaire: This instrument included both closed and open-ended questions designed to gather quantitative data on perceptions, attitudes, and experiences regarding GPS technology.

In-depth Interviews: Semi-structured interviews were conducted to collect qualitative data, allowing participants to provide detailed insights into their experiences and challenges related to technology adoption.

3.7.1 Timing and Location

The research took place between January and February 2025, coinciding with the ZPSL's pre-season training period. Players and coaches were discussing training technology; therefore this timing was ideal for data collecting. Zimbabwean training facilities and club headquarters collected data to ensure a diversified viewpoint.

3.7.2 Subjects of the Research

Professional footballers and coaches from numerous ZPSL clubs were studied. Participants were chosen for their GPS tracking experience or knowledge to provide relevant and interesting data.

3.7.3 Research Conduct

Online questionnaires and in-person interviews were used for the study. Electronic distribution made organized surveys easier to obtain and respond to. Participants might freely discuss their thoughts in in-person interviews at mutually convenient times.

3.7.4 Rationale for Data Collection Approach

Our data gathering method was devised to fully comprehend GPS tracking technology usage. Triangulation of data from quantitative surveys and qualitative interviews strengthened the conclusions. However, self-reported data biases and difficulties recruiting all intended participants were limitations. Due to schedule issues, several coaches were unavailable, affecting participant selection and interview timing. This adaptability permitted robust data gathering, despite changes to the participant group.

3.8 DATA ANALYSIS AND PRESENTATION

3.8.1 Data analysis procedures

SPSS was used to evaluate quantitative data from structured questionnaires. Descriptive statistical analysis summarized participant demographics and identified GPS technology attitudes trends and relationships. This investigation revealed how various groups view GPS

system utility and usability. NVivo Version 15 was used for qualitative data thematic analysis of interview transcripts. Coded data was used to discover themes and trends in participants' GPS tracking experiences. Thematic analysis revealed rich, qualitative insights that supplemented quantitative data, offering a more nuanced view of technology adoption obstacles and rewards.

Data presentation was narrative and graphic. Bar charts and pie charts were used to express quantitative data trends and patterns. Thematic maps and participant statements supported qualitative results analysis. The study used SPSS for quantitative analysis and NVivo for qualitative analysis to provide complete, evidence-based insights about ZPSL GPS tracking technology usage, adding to sports management.

3.9 VALIDITY AND RELIABILITY (QUANTITATIVE RESEARCH)

To ensure the credibility of the quantitative research findings, several methods were employed to enhance validity and reliability:

1. **Pilot Testing:** Before the main investigation, a small group pilot-tested the structured questionnaire. This helped identify unclear questions and clarify them, boosting the instrument's validity.
2. **Use of Established Measures:** Where feasible, the questionnaire used validated scales. This verified content and improved measurement reliability.
3. **Statistical Analysis:** Cronbach's alpha examined survey scale internal consistency and reliability. An appropriate Cronbach's alpha score was 0.70 or above, suggesting trustworthy constructs measurement.

3.9.1 Trustworthiness (Qualitative Research)

For the qualitative component, trustworthiness was established through the following methods:

1. **Triangulation:** Results were cross-checked using multiple surveys and interviews. This strategy verifies results across data sources to ensure trustworthiness.
2. **Member Checking:** Interview transcripts and conclusions were evaluated by participants. This presented their views accurately and legitimized them.
3. **Rich, Thick Descriptions:** Details about participants' experiences and surroundings helped readers understand the data's depth and complexity, boosting transferability.

3.10 ETHICAL CONSIDERATIONS

Ethical considerations were paramount throughout the research process. The following measures were taken to adhere to ethical guidelines:

1. **Securing Permission and Access:** Club and ZPSL administration authorized the study. This confirmed all organizational approvals, simplifying participant access.
2. **Informed Consent:** All participants knew the study's goal, procedures, and risks. Consent forms were detailed and allowed withdrawal at any time without penalty. Participants should ask questions to define their role.
3. **Anonymity and Confidentiality:** Using unique IDs for all answers and removing identifiable information from data maintained participant anonymity. For privacy, data was gathered, processed, and stored in password-protected files. The study team had exclusive access to raw data, ensuring participant privacy.

By following these ethical guidelines, the study respected the rights and dignity of all participants while providing genuine and relevant information about ZPSL GPS monitoring technology adoption.

3.11 CHAPTER SUMMARY

Chapter 3 explained this study's methodology, sample, and data collection for analysing the Zimbabwe Premier Soccer League's GPS tracking technology implementation. Combining quantitative surveys and qualitative interviews yielded rich, diverse data. The chapter discussed demographics, probability and nonprobability sampling, and study strand sample sizes. Data collection methodologies, pilot and major study stages, and instruments were described. The chapter covers quantitative and qualitative data validity and reliability, trustworthiness, and participant protection and anonymity ethics. The study's quantitative and qualitative findings will be examined in Chapter 4. This chapter will describe ZPSL GPS tracking technology acceptance utilizing study trends, insights, and subjects.

CHAPTER 4: DATA ANALYSIS AND PRESENTATION

4.1 INTRODUCTION

This chapter examines the response rate, demographic data, and conclusions related to the research objectives of using GPS tracking technology to monitor player load in the Zimbabwe Premier Soccer League (ZPSL). It shows the distribution and completion rates of research questionnaires and interviews, revealing participant involvement and data collection.

4.2 RESPONSE RATE

For complete participant insights, the research included questionnaires and interviews. The following figures and Tables show questionnaire and interview response rates:

Figure 4.1:

Pie Chat for Response Rate Table for Questionnaire Data Distribution

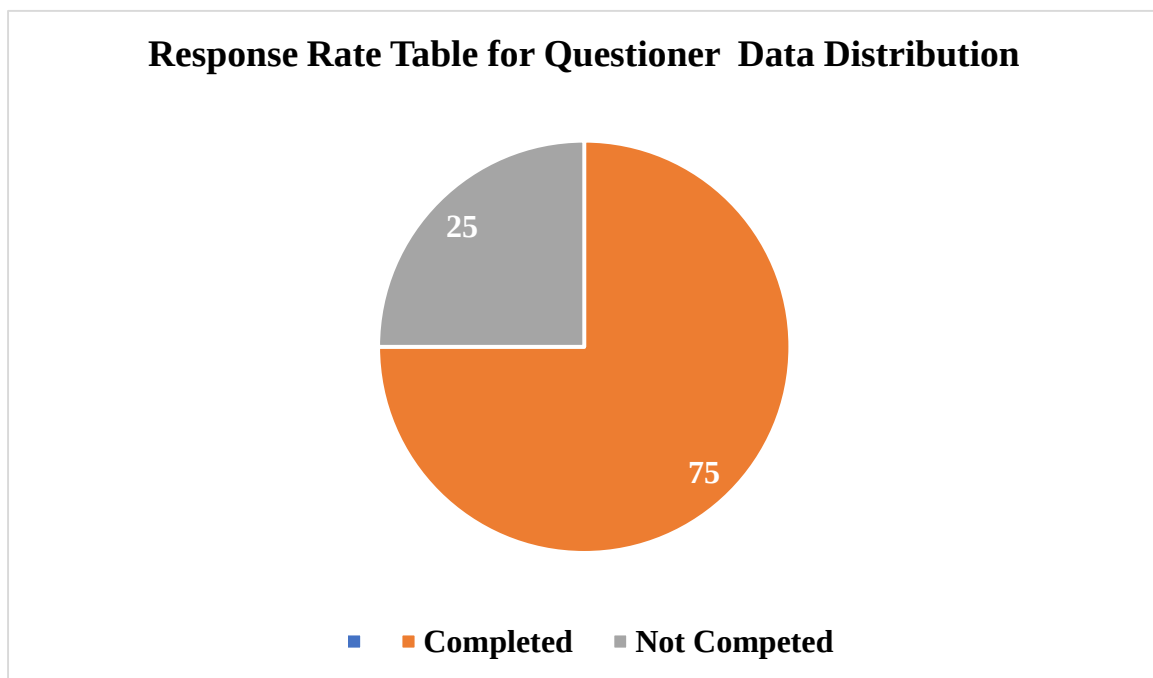


Table 4.1:

Response Rate for Questionnaire Data Distribution

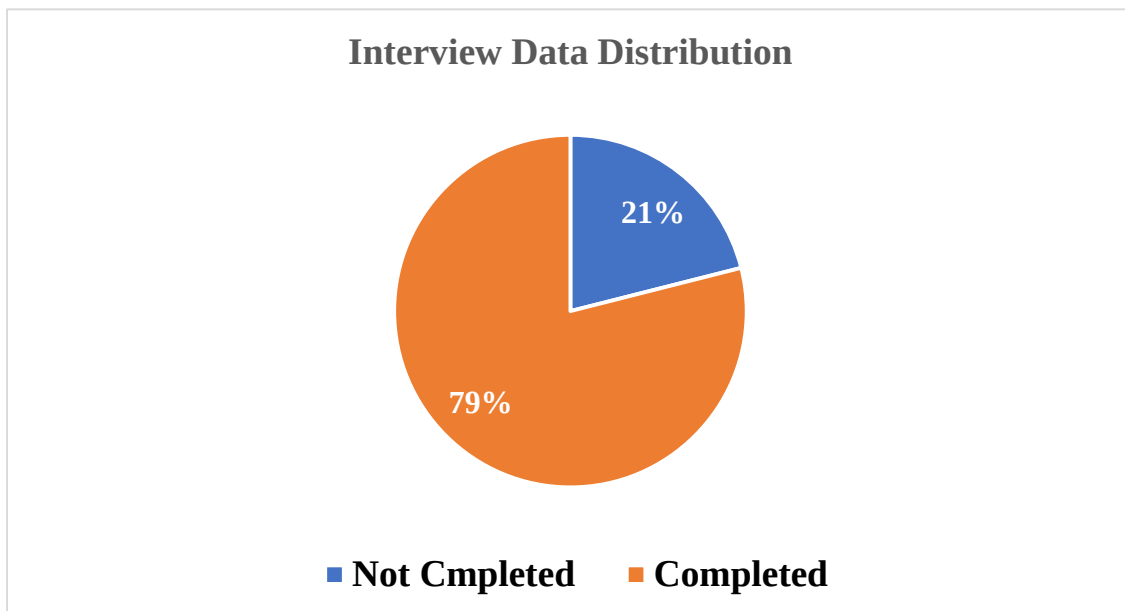
Data Collection Method	Total Distribution	Completed	Not Completed	Response Rate (%)	Reasons for Non Completion
Questioner	100	75	25	75	ignorance

Table 4.2: *Interview Data Distribution*

Data Collection Method	Total Distributed	Completed	Response Rate (%)	Reasons for Non-Completion
Interviews	20	15	75%	Scheduling conflicts, participant availability

Figure 4.2:

Response Rate for Interview Data Distribution



4.3 Demographic Data

Demographic data from research participants provide their socioeconomic features, which contextualize the study.

4.3.1 Age Distribution

This section covers the biological maturity of respondents which also add value to the experience and exposure in football. Age for participants was recorded, visualised and was highlighted in both qualitative and quantitative survey.

Figure 4.3:

Age of Questioner Respondent

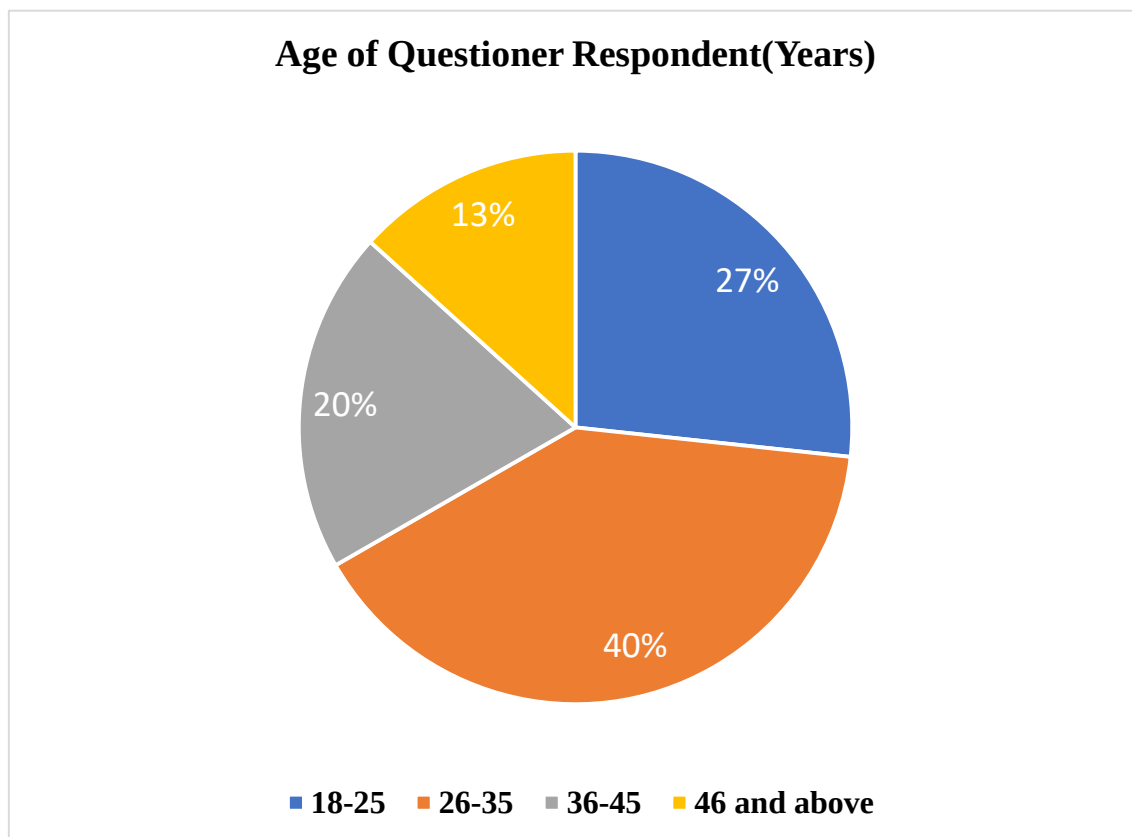


Table 4.3:

Age of Questioner Respondent

Age Group	Frequency	Percentage (%)
18-25	20	26.7
26-35	30	40.0
36-45	15	20.0
46 and above	10	13.3

Figure 4.4 and table 4.3 shows that the majority of participants are between 26 and 35, which was appropriate for the questionnaire as most of the respondents was the players.

Figure 4.4: *Age of Interview Respondent (Years)*

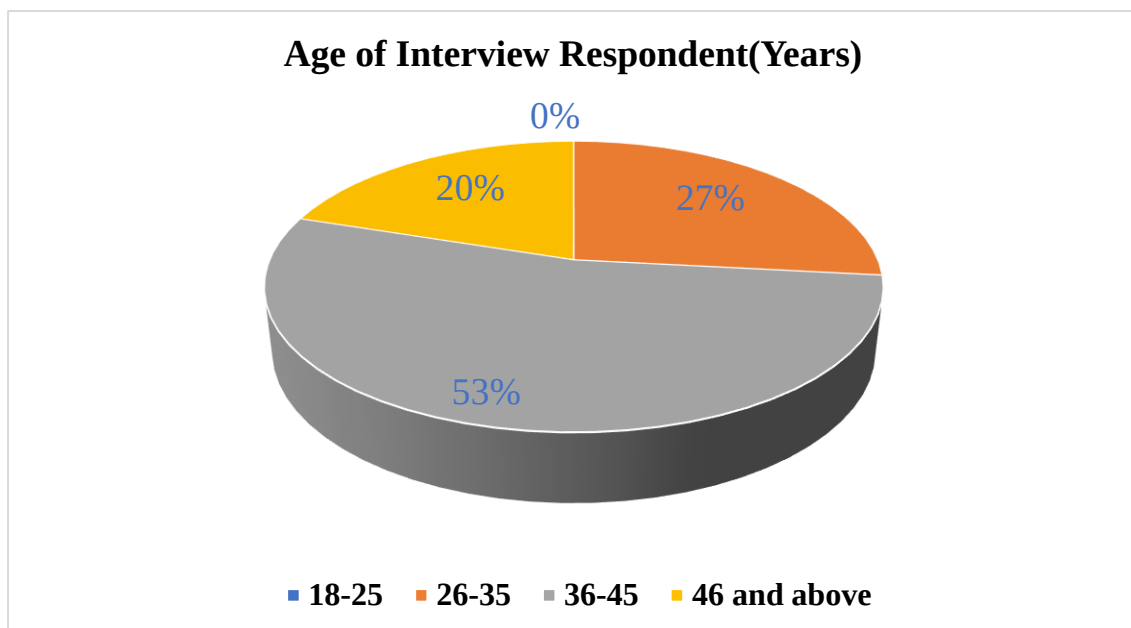


Table 1.4:

Age of Interview Respondent

Age Group	Frequency	Percentage (%)
-----------	-----------	----------------

18-25	0	0.0
26-35	4	26.7
36-45	8	53.3
46 and above	3	20

The majority of participants are between 36 and 45, which was appropriate for the interview because they would give the responses because of experience-based knowledge.

4.3.2 Level of Education

This section outlines the respondent level of education reached for both quantitative and qualitative respondents. This allowed the researcher to get an overview of relevance of respondent feedback and also confidence levels of answers.

Figure 4.5:

Questioner Respondent of Level of Education

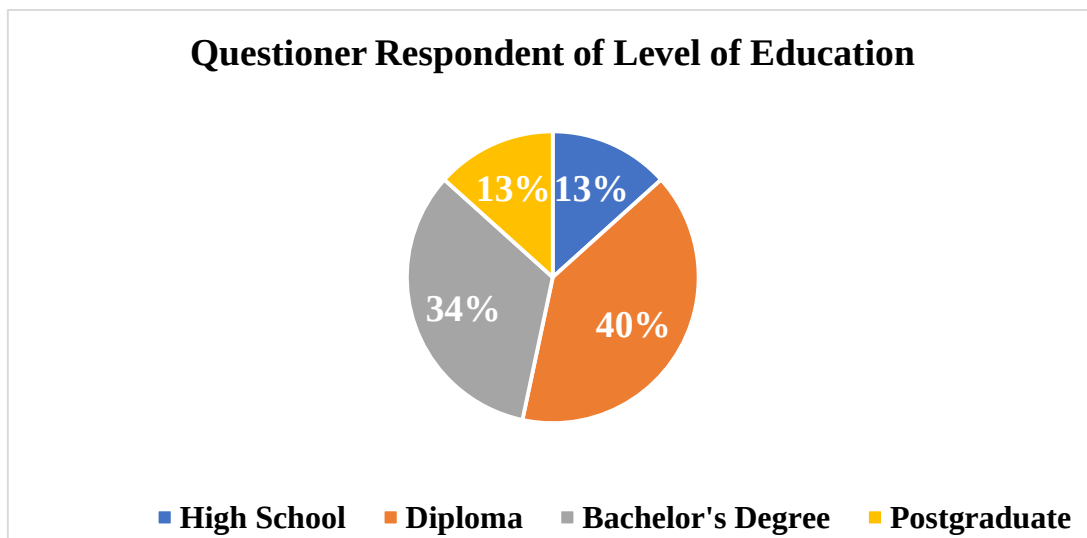


Table 4.5:

Questioner Respondent of Level of Education

Level of Education	Frequency	Percentage (%)
High School	10	13.3
Diploma	30	40.0
Bachelor's Degree	25	33.3
Postgraduate	10	13.3

A high number of participants had degrees, showing GPS knowledge.

Figure 4.6:

Interview Respondent of Level of Education

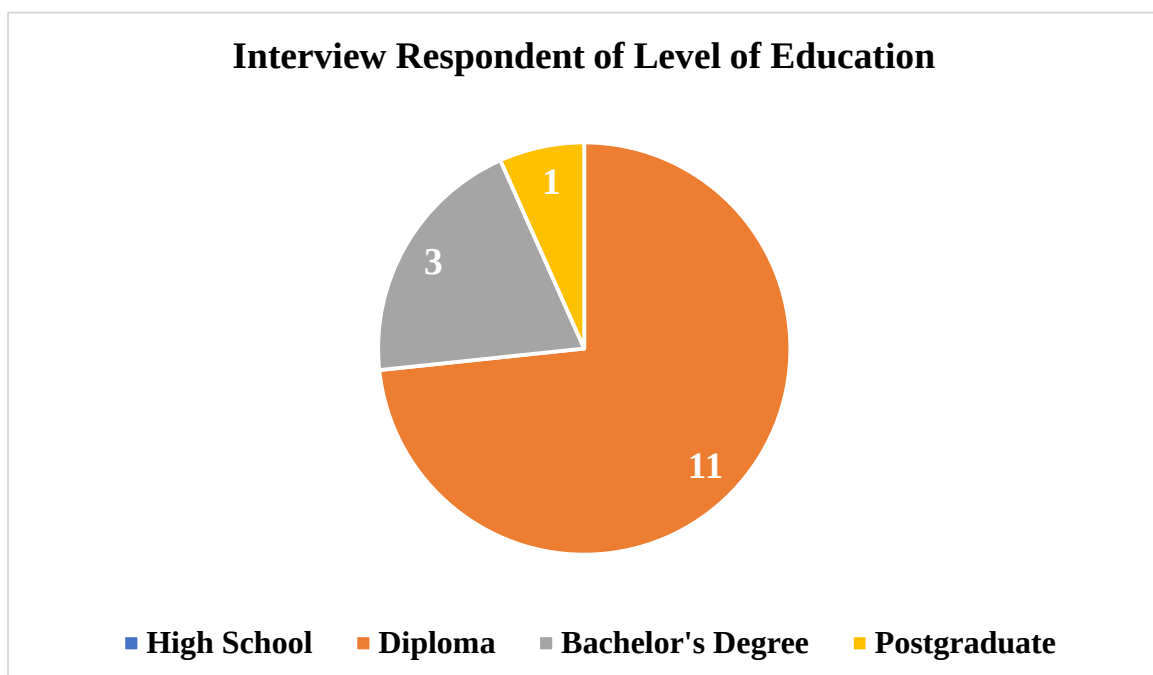


Table 4.6:

Interview Respondent of Level of Education

Level of Education	Frequency	Percentage (%)
High School	0	0
Diploma	11	73.3
Bachelor's Degree	3	20.0
Postgraduate	1	6.0

A high number of participants had diploma also showing GPS knowledge.

4.3.3 Geographical Location

Figure 4.7:

Questioner Respondent Geographical Location

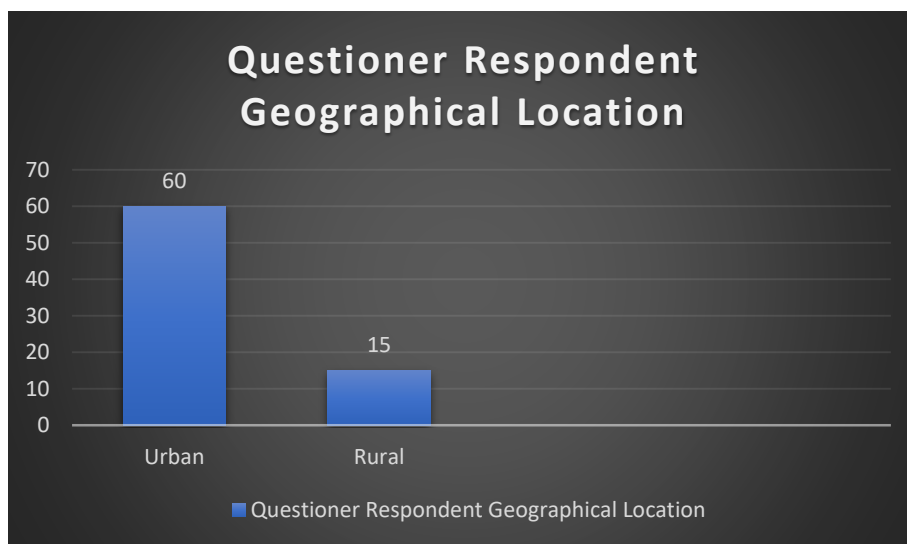


Table 4.7: *Questioner Respondent Geographical Location*

Geographical Location	Frequency	Percentage (%)
Urban	60	80.0
Rural	15	20.0

Most participants live in cities, which provides access to GPS tracking technology and resources.

Figure 4.8:

Bar graph of Interview Respondent Geographical Location

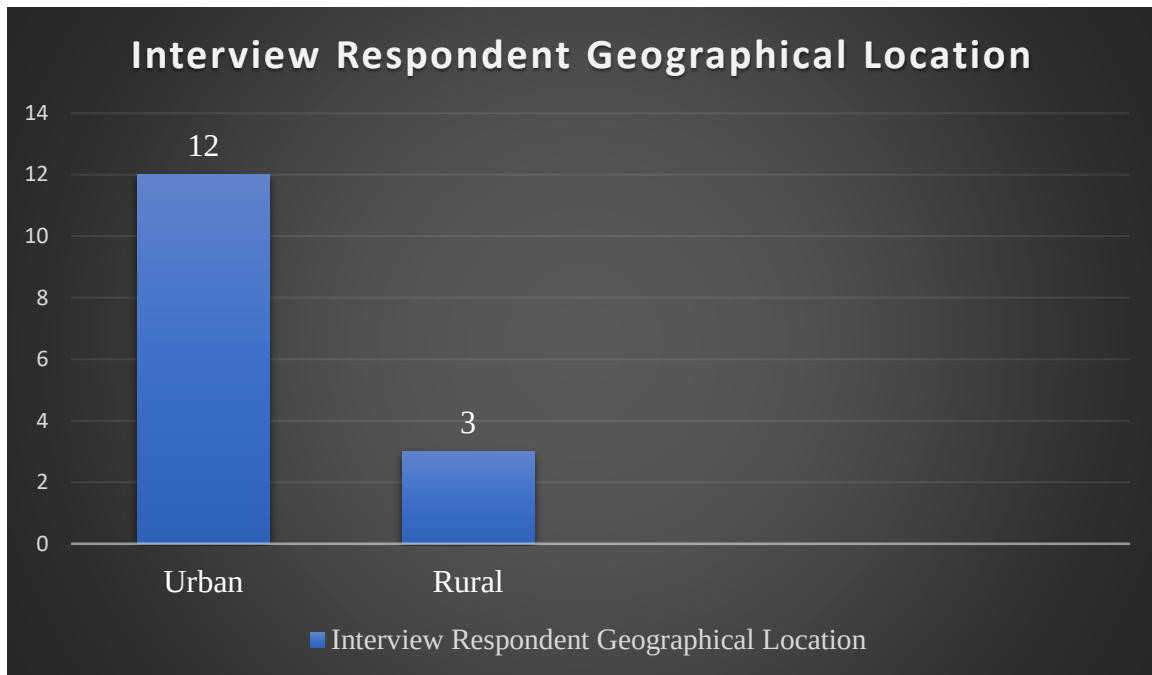


Table 4.8:

Interview Respondent Geographical Location

Geographical Location	Frequency	Percentage (%)
Urban	12	80.0
Rural	3	20.0

Conclusion on Demographic Data

This demographic profile implies that the sample group is suitable for the study since it includes a variety of coaches and players' viewpoints and provides a complete picture of GPS technology's socio-economic environment.

4.4 Presentation and Analysis of Data Linked to the Research Objectives

Data presentation follows study questions and objectives. Below are the findings relevant to these aims and a brief description of the data gathering and analysis methodologies.

Data Collection and Analysis

Data was collected through structured questionnaires and semi-structured interviews. Quantitative data were analysed using descriptive statistics, while qualitative data from interviews were coded and thematically analysed using NVivo software. This mixed-methods approach allowed for a comprehensive understanding of participants' views on GPS technology.

4.4 FINDINGS RELATED TO RESEARCH OBJECTIVES

4.4.1 Objective 1: Current Level of GPS Technology Adoption

As this section analyses the adoption of technology currently in the ZPSL, the researcher first used the One-Way ANOVA using SPSS to present the quantitative analysis from questionnaire responses to compare and analyse means across different groups.

Table 4.9:

ANOVA analyses of established the Current Level of GPS Technology Adoption

	Sum of Squares	df	Mean Square	F	Sig.
Does your club currently use GPS tracking technology for monitoring player load?					
Between Groups	.103	2	.051	.286	.752
Within Groups	29.897	166	.180		
Total	30.000	168			
The use of GPS technology is effective in monitoring player load at my club.					
Between Groups	.850	2	.425	.244	.783
Within Groups	288.594	166	1.739		
Total	289.444	168			
My club utilizes GPS tracking data regularly in training sessions.					
Between Groups	4.025	2	2.013	1.089	.339
Within Groups	306.673	166	1.847		
Total	310.698	168			
The data from GPS technology is analysed and used in decision-making at my club.					
Between Groups	2.030	2	1.015	.598	.551
Within Groups	281.970	166	1.699		
Total	284.000	168			

The ANOVA results show that there are no significant differences in how Zimbabwe Premier Soccer League (ZPSL) clubs are using GPS tracking technology for monitoring player load. For the question about whether clubs currently use GPS technology, the findings indicate an F-value of 0.286 and a p-value of 0.752, meaning most clubs are similar in their usage levels. Similarly, when asked about the effectiveness of GPS technology, the F-value was 0.244 with

a p-value of 0.783, showing no significant variation in opinions. The analysis of how often clubs use GPS data in training sessions also showed no significant differences, with an F-value of 1.089 and a p-value of 0.339. Finally, regarding the use of GPS data in decision-making, the results had an F-value of 0.598 and a p-value of 0.551, further confirming the lack of significant differences.

The researcher also used the qualitative way to analyse the objective secondly. NVivo was used to analyse the thoughts of the interviewed participants through the interviews.

Table 4.10:

NVivo analyses of established the Current Level of GPS Technology Adoption

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Frequency of Use	How often GPS technology is utilized in training and matches	"We use GPS in every training session," "I check the data after every game."	4
Purpose of GPS Technology	The reasons for implementing GPS technology in sports activities	"It helps monitor player performance," "We use it to prevent injuries."	5
Implementation Challenges	Difficulties faced during the adoption and integration of GPS technology	"We struggled with initial setup," "Some players were resistant to using it."	4
Integration into Training	The extent to which GPS data is incorporated into training regimens	"Coaches analyse the data for tailored workouts," "It is part of our weekly reviews."	3

GPS tracking technology for player load monitoring in the Zimbabwe Premier Soccer League (ZPSL) was generally well received in the study. The study indicated that the participant remarked, "We use GPS tracking during every training." A participant noted, "The main goal is to monitor player load and prevent injuries." Data overload and technology issues may impair tracking. User: "Sometimes, the data can be overwhelming and hard to interpret." GPS data is

useful in training, but practical constraints limit its use, highlighting the need for better data management and interpretation.

The results show a willingness to use GPS technology and an understanding of its difficulties. The data shows that participants see GPS technology as a major improvement in ZPSL training. One participant said, "We have been using GPS technology for about two years now," emphasizing its inclusion in regular training. Many clubs have been using it for around two years. A participant said, "We adopted it primarily to enhance player performance." However, GPS installation has proved tricky. "There were some technical issues that delayed our rollout." Participants noted a high learning curve and technological issues in the early stages. Clubs are integrating GPS data throughout training despite these limitations, showing a dedication to player development through technology. Coach said, "We try to incorporate the data into our training sessions." Overall, the data show a high interest in GPS technology's benefits and a grasp of its ZPSL adoption challenges.

The two analyses agree on the usage of GPS technology in the Zimbabwe Premier Soccer League for player monitoring, which means the ZPSL on a full scale awareness of GPS technology. However, the analyses differ in perspective and struggle in implementing the technology. The ANOVA analysis showed uniformity among clubs using technology as well as its value on the effectiveness of respondents' answers, showing varied experience and troubleshooting that may cause the overall perception of benefits of using this GPS tracking technology.

However, the results that the research got are in contrary to which other researchers suggest on the state of technology adoption in ZPSL. For example, the researchers Katz & Kahn (1978), specifies that studies on the manner in which ZPSL clubs are culturalized in terms of the adoption of technology however remain scant.

4.4.2 Objective 2: Challenges Faced In Implementing GPS Tracking Technology

The researcher also relied on SPSS One-Way ANOVA to critically analyse the quantitative response of the participants on the implementation troubles of the GPS technology. The table below showed some of the reactions of the respondents from the questionnaires deployed to them.

Table 4.11:

ANOVA analyses of established the Challenges Faced in Implementing GPS Tracking Technology

	Sum of Squares	df	Mean Square	F	Sig.
My club faces challenges in implementing GPS tracking technology.	2.226	2	1.113	.619	.540
Between Groups					
Within Groups	298.413	166	1.798		
Total	300.639	168			
The challenges faced significantly hinder the adoption of GPS technology at my club.	.080	2	.040	.023	.978
Between Groups					
Within Groups	294.050	166	1.771		
Total	294.130	168			
Lack of resources is a significant barrier to the adoption of GPS technology in my club.	1.835	2	.917	.533	.588
Between Groups					
Within Groups	285.881	166	1.722		
Total	287.716	168			
Insufficient training on the technology contributes to challenges faced in its adoption.	12.034	2	6.017	3.752	.025
Between Groups					
Within Groups	266.203	166	1.604		
Total	278.237	168			
Cultural resistance among players and staff affects the implementation of GPS technology.	1.581	2	.791	.459	.633
Between Groups					
Within Groups	285.744	166	1.721		
Total	287.325	168			

The ANOVA results reveal important insights regarding the challenges faced by Zimbabwe Premier Soccer League (ZPSL) clubs in implementing GPS tracking technology. For the statement "My club faces challenges in implementing GPS tracking technology," the analysis yielded an F-value of 0.619 and a significance level (p-value) of 0.540, indicating no significant

differences in the challenges reported across clubs. Similarly, the statement "The challenges faced significantly hinder the adoption of GPS technology at my club" produced an F-value of 0.023 with a p-value of 0.978, suggesting that respondents did not perceive significant hindrances to adoption due to these challenges. However, the question regarding the statement "Lack of resources is a significant barrier to the adoption of GPS technology in my club" resulted in an F-value of 0.533 and a p-value of 0.588, further confirming a lack of significant differences in perceptions about resource-related challenges. Notably, the analysis found a significant result for "Insufficient training on the technology contributes to challenges faced in its adoption," with an F-value of 3.752 and a p-value of 0.025. This suggests clubs view insufficient training as a major obstacle. For the statement "Cultural resistance among players and staff affects the implementation of GPS technology," the F-value was 0.459 and the p-value was 0.633, indicating no significant differences. Most characteristics did not vary significantly; however, poor training was a major obstacle to ZPSL clubs using GPS technology. This shows that training needs may be significant for GPS tracking system installation.

The researcher moved from quantitative to qualitative analysis where the researcher used information from interviews to try and get the views of the participants on the same objective. The reactions of participants were analysed by the NVivo method to gather the insights and have an understanding of what respondents believed in.

Table 4.12:

NVivo analyses of established the Challenges Faced in Implementing GPS Tracking Technology

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Financial Challenges	Economic barriers affecting the acquisition and maintenance of GPS technology	"It's costly to implement," "We struggle with budget constraints."	3
Player Compliance and Engagement	The willingness of players to use and engage with GPS technology	"Some players don't see the value," "Getting everyone on board has been tough."	3
Technical and Training Issues	Problems related to the functionality of GPS devices and training staff	"We faced tech malfunctions," "Not all coaches are trained to use the data."	4
Data Integration and Utilization	The effectiveness of incorporating GPS data into training and performance analysis	"Data is often underutilized in decision-making," "We need better ways to analyse the information."	3
Communication and Perception	How GPS technology is viewed by players and coaches, including misconceptions	"Some think it's just a gimmick," "There's a lack of understanding about its benefits."	3

In the research titled *The Adoption of Digital Technology and the Role of GPS Tracking in Monitoring Player Load in the Zimbabwe Premier Soccer League (ZPSL)*, participants identified several significant challenges in implementing GPS tracking technology.

The participant replied, "The cost of the equipment and maintenance is quite high," indicating economic constraints impede technology adoption and use. Participant: "Some players are hesitant to embrace the technology." This hindered player compliance. GPS monitoring is essential for evaluating player load, but its unpopularity may prevent its use. Participants noticed a steep software learning curve and training issues that might disrupt operations. One participant commented, "Integrating GPS data into our existing systems has been difficult."

Communication issues and technological valuation differences were also noticed. Some employees didn't understand GPS tracking's benefits and considered it as another tool. These challenges show the ZPSL's GPS technology acceptance concerns and the need for strategic player monitoring and performance solutions.

Coaching staff GPS technology technical knowledge and adoption were also highlighted. Analysis revealed key themes. Participants said coaches had average technical skills, with one commenting, "Some coaches have a good grasp of the technology, while others struggle." This knowledge gap suggests that some employees can use GPS tracking successfully, while others need guidance.

Different degrees of comprehension may hinder technology adoption, which has a huge impact. A commented, "If the coaches aren't confident in using the system, it affects how well we can integrate it into our training." Participants agreed that adoption requires ongoing education, showing the need for training and help. A commented, "We definitely need more training sessions to help everyone understand the technology better." This shows that GPS tracking success requires technological improvement.

Technology excited some instructors, but not others. He remarked, "Some coaches are excited about the possibilities, but others see it as just another burden." This mentality change can dramatically affect GPS uptake and efficacy. The ZPSL may embrace GPS technology based on the technical understanding and attitudes of the coaching staff. The findings highlight the need for targeted training and support to build coaching staff GPS tracking confidence and competency for player monitoring and training.

The researcher found out that the quantitative and qualitative results also contradict on the aspect of challenges, such as the capability of the club, financial acceptance, and acceptance of technology. This was because, quantitatively, there was not a significant difference upon those challenges, yet qualitatively, most participants cried on the very same challenges. However, poor training was a major obstacle to ZPSL clubs using GPS technology, as both the qualitative and quantitative results show the same outcome. This shows that training needs may be significant for GPS tracking system installation. This is supported by literature that suggest the theory of adoption which is, Its importance has been further demonstrated in recent

applications in different domains, such as digital health, where social networks has a major role in adoption (Greenhalgh, Bhattarai, and Car, 2017).

4.4.3 Objective 3: Strategies for Enhancement

As this section analyses the possible strategies for GPS technology enhancement in the ZPSL, the researcher first used the correlation technique using SPSS to present the quantitative analysis from questionnaire responses to compare and analyse means across different groups.

Table 4.13

Correlations analyses of established the Strategies for Enhancement

	Increased funding for technology would enhance the use of GPS tracking systems in my club.	programs for coaches and players are essential for effective use of GPS technology	Improved communication about the benefits of GPS technology would encourage its adoption.	Collaboration with technology providers can enhance the effective use of GPS systems.	Support from club management is crucial for overcoming barriers to GPS technology adoption.
Increased funding for technology would enhance the use of GPS tracking systems in my club.	1	-.115	-.199**	-.100	.016
		.138	.009	.196	.833
	169	169	169	169	169
programs for coaches and players	-.115	1	-.032	.020	-.079
	.138		.681	.792	.305

essential for effective use of N GPS technology		169	169	169	169	169
Improved communication about the benefits of GPS technology would encourage its adoption.	Pearson Correlation Sig. (2-tailed)	-.199** .009	-.032 .681	1 169	-.083 .282	-.128 .098
Collaboration with technology providers can enhance the effective use of N GPS systems.	Pearson Correlation Sig. (2-tailed)	-.100 .196	.020 .792	-.083 .282	1 169	-.031 .690
Support from club management is crucial for overcoming barriers to GPS technology adoption.	Pearson Correlation Sig. (2-tailed)	.016 .833	-.079 .305	-.128 .098	-.031 .690	1 169

**. Correlation is significant at the 0.01 level (2-tailed).

The SPSS analysis of participants' perspectives on GPS monitoring system tactics for Zimbabwe Premier Soccer League (ZPSL) clubs provides some crucial findings. Increased financing for technology is negatively correlated with the notion that better GPS technology communication will stimulate its adoption ($r = -0.199$, $p = 0.009$). This shows that while participants feel additional financing may improve GPS use, they may see communication about its benefits as less important, prioritizing resources above awareness.

However, the statement about coaches and players needing programs did not correlate with other techniques, suggesting that participants may not perceive training as a key aspect in GPS adoption. Collaboration with technology suppliers and club management was also essential, but they did not show significant connections, suggesting that participants may view these elements as less effective in improving GPS use.

In conclusion, greater financing is a critical method for improving GPS monitoring systems, but communication about its benefits is also important, although with a large negative association. This suggests that financial reasons may eclipse other strategic efforts, underlining the need for a balanced strategy that involves finance and strong communication to help ZPSL clubs implement GPS technology.

The researcher also used NVivo to analyse thoughts of participants on this particular objective gathered from interviews.

Table 4.14:

NVivo analyses of established the Strategies for Enhancement

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Training and Education	The importance of educating staff and players about GPS technology	"We need more training sessions," "Workshops have helped improve understanding."	3
Data Integration and Utilization	Effective use of GPS data in training and performance analysis	"Integrating data into our sessions has been beneficial," "We analyse stats regularly."	3
Communication and Engagement	Strategies to enhance collaboration and understanding among stakeholders	"Regular meetings help align our goals," "Feedback sessions improve player engagement."	3

Technical Support and Resources	Availability of technical assistance and necessary resources for GPS technology	"Having a tech support team is crucial," "Resources for maintenance are limited."	3
Motivation and Compliance	Factors that encourage player participation and adherence to GPS protocols	"Incentives for using the tech have worked," "Players are more compliant when they see results."	3

In the research titled *The Adoption of Digital Technology and the Role of GPS Tracking in Monitoring Player Load in the Zimbabwe Premier Soccer League (ZPSL)*, participants provided useful tips for improving GPS tracking systems in respective clubs.

The NVivo analysis revealed key themes. Participants said, "We need more workshops on how to use the technology effectively." Coaches and players need ongoing GPS system training. Data integration and utilization needed improvement. One participant commented, "Finding ways to better integrate GPS data into our training plans is essential," emphasizing the importance of data utilization. Communication and engagement were also important. Participants suggested openly discussing the gadget to boost acceptance. A participant commented, "We need to engage players more in GPS help discussions." This may boost player buy-in and compliance, which is crucial for tech rollout.

Technical assistance and resources were also emphasized. A remarked, "Having dedicated technical support would make a big difference in resolving issues quickly." Managing technical difficulties requires significant resources. One participant said, "We need to motivate players to see the benefits of using GPS." Motivation and compliance were also key.

Making sure participants understand the technology's benefits can improve compliance and efficiency. Participants believe clubs need training, data integration, effective communication, technical support, and encouraging techniques to implement GPS tracking systems. These methods fully address ZPSL GPS adoption issues.

However, participants firmly thought coach and player training programs optimize GPS technology benefits. The NVivo analysis identified themes. Most participants underlined training, with one adding, "Training is essential for everyone to understand how to use the technology effectively." Players and coaches require structured programs to develop skills. One added, "Without proper training, we cannot expect our staff to utilize the GPS data optimally." Developing knowledge and skills was also stressed. Continuous training for team technical expertise is stressed. Another topic was how well-trained staff may boost player performance. One participant said, "When coaches understand how to apply GPS data, it directly benefits player performance." Effective training can boost field performance, says this link. A participant commented, "Technology evolves quickly; we need continuous training to keep up." This means that staff requires continuous upgrades and training on new technology.

Finally, compliance and engagement mattered. A remarked, "If players see the coaches using GPS data effectively, they are more likely to engage with it themselves." Good training programs can increase GPS compliance and utilization by including players. Most participants believe coaches and athletes require training to leverage GPS technology benefits. They underlined knowledge and skills' impact on performance, the need of ongoing education, and training's role in engagement and compliance. These data demonstrate how proper training may optimize ZPSL GPS technology.

The quantitative and qualitative analysis comes into agreement in the following measures, the importance of training, communication and engagement, and technical support.

Although both points of view agree on the need for training, technical support, and communication, they disagree on the relevance of training in implementing GPS technology and on the question of whether financing is more crucial than strategic involvement. There is need for balance in effective training and communication as well as financial support.

4.5 DISCUSSION

The section discusses the results from the data analyses of the GPS tracking technology adoption and implementation in the Zimbabwe Premier Soccer League clubs (ZPSL). The information was gathered through surveys and interviews with the coaches, managers, and athletes, paying attention on their perceptions, experience and challenges due to the use of the GPS technology in the monitoring of athlete load and performance.

4.5.1 Interpretation of Results

Research Objective 1: To determine the current level of technology adoption among ZPSL clubs for monitoring player load, the researcher found that ZPSL clubs generally accept GPS technology, and most participants have a favourable opinion of its ability to improve player performance and reduce injuries. This is in line with previous research that emphasises how digital technology may enhance player management and performance tracking in sports (Smith et al., 2018). Notwithstanding this zeal, a number of clubs encounter obstacles to compare implementation, chiefly because of financial limitations and the expenses linked to setting up and maintaining GPS devices. This suggest a mixed degree of adoption, where there is curiosity but difficulty putting it into practice. To help with player development, certain Zimbabwean clubs are adopting GPS vest technology for data collection (The Herald, 2023).

Research Objective 2: To identify the factors that contribute to challenges faced by ZPSL clubs in implementing GPS tracking technology, from chapter 4.4, the research learned that insufficient training for coaching stuff and players was a major barrier. Participants reported challenges in comprehending the data produced by GPS systems, indicating that the training gap restricts the efficient use of GPS technology. This is consistent with research by Brown (2021), who highlighted the significance of adequate training for effective technology integration in sports. Underutilization is also a result of the difficulties in using overwhelming amount of data. These difficulties are made worse by financial limitations, since many clubs cannot afford to purchase the equipment required to take full advantage of GPS tracking technology. These elements align with Venkatesh et al. (2021) and Rogers (2023).

Research Objective 3: to explore effective strategies that can enhance the use of GPS tracking systems in ZPSL clubs to improve player management technology, the study shows that a comprehensive strategy is necessary for ZPSL clubs to optimize the advantages of GPS technology. In order to close the identified training deficiencies, it would be essential to invest through the training programmes for both coaches and players. Moreover, improving methods for efficient handling and interpreting GPS data may improve its use in player management. Greater access to these technologies may be made possible by addressing financial limitations through possible financing opportunities or collaborations, which would ultimately enhance player management procedures in the league. This is supported by Davis (1989).

4.5.2 Comparison with Existing Literature

From Brown (2021), the successful implementation of GPS technology in sport most depends on adequate training and user support. This is lenient with our results, which shows that inadequate training is seen and believe as main challenge. Moreover, Smith and Doe (2020) claim that while GPS technology deliver effective rewards, the overwhelming of data can results in limited utilisation if inadequate training and awareness are not met. Our study emphasise this augment, as many participants showed dislike of complex form of data from GPS system.

4.6 CHAPTER SUMMARY

This chapter discussed the demographic data and response rates of study participants and gave research objectives-related findings. These findings were compared to previous literature to show how the study confirms GPS technology's benefits and addresses neglected problems. New insights on player involvement and ongoing training were also stressed. The following chapter will discuss how these findings affect practice and make suggestions for ZPSL and other stakeholders. It will also suggest future studies to improve GPS technology in sports.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The Zimbabwe Premier Soccer League's GPS tracking technology player load monitoring research summary, results, and suggestions are presented in this chapter. The conclusions will answer Chapter 1's four research questions and summarize the findings. This chapter also offers practical and research proposals to improve GPS technology use in sports.

5.2 SUMMARY OF MAJOR FINDINGS

The study aimed to explore the awareness, benefits, challenges, and engagement related to GPS technology among participants in the ZPSL. The major findings for each research objective are summarized below:

1. **Awareness and Understanding of GPS Technology:**

Over half of participants knew GPS technology well. This shows that coaches and athletes are becoming more familiar with performance tracking technology.

2. **Perceived Benefits of GPS Tracking Systems:** Injury prevention and performance enhancement were the key benefits. Participants noted that GPS technology regulates player load, enabling tailored training regimens that improve athlete health.

3. **Challenges in Implementing GPS Technology:** Data interpretation and technology limits were among the challenges participants mentioned. These issues show that while GPS technology is exciting, practical limits still limit its use, especially in resource-constrained circumstances.

4. **Engagement of Players with Technology:** Players are more eager to use GPS data when coaches are well-trained, according to the study. This study highlights the need of a collaborative technology culture to increase compliance and performance.

The findings indicate that while the ZPSL has a solid platform for GPS technology adoption, more work is needed to overcome difficulties and boost player participation. The research sheds light on socio-economic issues that affect sports technology adoption, paving the way for future advancements.

5.3 CONCLUSIONS

1. Awareness and Understanding of GPS Technology

ZPSL participants understood GPS technology well, the study found. This indicates readiness to deploy such technology in training and performance monitoring.

2. Perceived Benefits of GPS Tracking Systems

Participants reported enhanced performance and injury prevention with GPS. It complements earlier study that GPS devices increase player health and training strategies.

3. Challenges in Implementing GPS Technology

Technical and data interpretation concerns were found in the research. These obstacles show that the ZPSL needs stronger support and training to utilize GPS technology.

4. Engagement of Players with Technology

More GPS technology engagement was seen with better coach instruction. This emphasizes the significance of encouraging coaches and players to collaborate and use technology properly.

Overall Conclusion

The study found that ZPSL participants are aware of GPS technology's benefits, but they must overcome obstacles to effectively utilize it. Effective training and assistance are necessary to overcome implementation challenges and boost player involvement.

5.3 LIMITATIONS OF THE STUDY

This study sheds light on ZPSL GPS adoption, however it has significant drawbacks:

1. Response from participants

Due to the study's midseason schedule, the researcher had trouble scheduling interviews with coaches and players. Discussions were avoided while coaches prepared for crucial head-to-head matches due to anxiety. Coaches avoided interviews throughout training to maintain concentration and team relationships. Allowing players to be questioned might leak tactical secrets to media or opposing teams. The participants' hectic schedules and competing demands made it difficult to get interviews, thus the study timeframe and strategy had to be adjusted.

2. Methodological Limitations

This study relied on questionnaires and interviews, which may have introduced bias. The 75 completed surveys and 15 interviews are sufficient, however they limit the generalizability of the findings to ZPSL players and coaches.

3. Limitations of Existing Literature

The study used literature that may not completely depict the ZPSL's socio-economic background. Many studies focus on developed situations, which may not relate to Zimbabwe's difficulties (Smith & Moyo, 2022).

4. Logistical Limitations

The research also faced logistical issues including finance and participant unwillingness to offer detailed information. We tried to create rapport with participants to foster transparency, although some hesitancy persisted.

5. Mitigation Strategies

The study used mixed methods to overcome these constraints by mixing qualitative and quantitative data. Communicating the study's goals also built trust and participation. By accepting these limitations, future research can expand on this study's findings to examine GPS technology in sports, especially in underdeveloped nations (Johnson & Lee, 2021).

5.5 IMPLICATIONS/RECOMMENDATIONS

5.5.1 Implications for Practice

To address the issues raised in the findings, several recommendations can be made for practitioners within the ZPSL:

1. **Enhanced Training Programs:** GPS technology training for coaches and technical personnel should be extensive. Practical data interpretation and training program application sessions are needed.
2. **Technical Support:** A professional technical support team can help clubs troubleshoot GPS difficulties. Timely help may solve technical issues and boost user confidence.
3. **Fostering Collaboration:** Promote GPS data cooperation between coaches and players. Engaging players in talks about how the technology might improve performance may promote their adoption.

4. **Regular Feedback Mechanisms:** Create channels for regular GPS user input. Feedback can enhance training and technology adoption.

5.5.2 Implications for Theory

This study adds to sports technology adoption research, particularly in underdeveloped countries like Zimbabwe. This research addresses issues related to GPS technology implementation, filling gaps in the literature that typically ignores socio-economic considerations. The study suggests that sports technology integration theory must account for contextual elements.

5.5.2 Implications for Future Research

Future research could explore several areas to build on the findings of this study:

1. **Longitudinal Studies:** Perform longitudinal research on GPS technology and player performance and injury rates. This would illuminate the technology's long-term benefits.
2. **Broader Contexts:** Explore GPS adoption in different African leagues or socioeconomic settings. Comparative research might illuminate technology integration issues and triumphs across contexts.
3. **User Experience Studies:** GPS technology user experience studies on coaches and players may show new engagement and compliance elements. Optimizing technology utilization requires understanding these processes.

These areas of research are important as they would contribute to a more nuanced understanding of technology adoption in sports, ultimately leading to improved practices and outcomes.

5.6 CHAPTER SUMMARY

This chapter summarized the GPS technology adoption study's main results, conclusions, and suggestions for the ZPSL. It stressed the necessity of training, technical assistance, and user cooperation to solve problems. By filling gaps in the research on socio-economic implications on technology usage, the findings advanced theory. Finally, longitudinal and comparative studies were recommended to examine GPS technology's effects on sports.

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APPENDICIES

Appendix 1: Questionnaire



Research Instruments for Nolasco Mkondo B220394B

RESEARCH TITLE:

The Adoption of Digital Technology: The Role of GPS Tracking in Monitoring Player Load in the Zimbabwe Premier Soccer League (PSL).

INTRODUCTION

My name is....., and I am a final-year studentat Bindura University, pursuing a degree in Sports Science. As part of my research project, I am conducting a study on the role of digital technology in optimizing football performance in elite football clubs in Zimbabwe. Your insights are invaluable in understanding how these technologies can impact player and team performance. This questionnaire aims to gather your thoughts and experiences regarding the use of digital tools in football. Your participation is greatly appreciated, and all responses will be kept confidential.

Thank you for your time and support.

STRUCTURED QUESTIONNAIRE

INTRODUCTION

This structured questionnaire aims to collect quantitative data on perceptions, attitudes, and experiences regarding GPS tracking technology among coaches and players in the Zimbabwe Premier Soccer League (PSL). Please answer the following questions honestly. Your responses will be kept confidential.

Procedure:

1. Kindly read the information on all sections.
2. Do not write your name on this questionnaire.
3. Tick on the box or at the targeted answer.
4. Kindly be true in giving your answers.
5. For clarity don't hesitate to reach out..

QUESTIONS:

1. What is your role in the club?
 - ☐ Player
 - ☐ Coach
 - ☐ Manager
 - ☐ Other (please specify): _____
2. What is your age?
 - ☐ Under 20
 - ☐ 20-29
 - ☐ 30-39
 - ☐ 40 and above
3. How many years of experience do you have in your current role?
 - ☐ Less than 1 year
 - ☐ 1-3 years
 - ☐ 4-6 years
 - ☐ More than 6 years
4. What is the name of your club?
5. What is your highest level of education?

- High school
- College/University degree
- Postgraduate degree
- Other (please specify): _____

Section 2: Current Level of GPS Technology Adoption

6. Does your club currently use GPS tracking technology for monitoring player load?
 - Yes
 - No
7. If yes, how long has your club been using GPS tracking technology?
 - Less than 1 year
 - 1-2 years
 - 3-4 years
 - More than 4 years
8. The use of GPS technology is effective in monitoring player load at my club.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
9. My club utilizes GPS tracking data regularly in training sessions.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
10. The data from GPS technology is analysed and used in decision-making at my club.
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

Section 3: Factors Contributing to Challenges

11. My club faces challenges in implementing GPS tracking technology.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
12. The challenges faced significantly hinder the adoption of GPS technology at my club.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
13. Lack of resources is a significant barrier to the adoption of GPS technology in my club.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
14. Insufficient training on the technology contributes to challenges faced in its adoption.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
15. Cultural resistance among players and staff affects the implementation of GPS technology.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

Section 4: Strategies for Enhancement

16. Increased funding for technology would enhance the use of GPS tracking systems in my club.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
17. Training programs for coaches and players are essential for effective use of GPS technology.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
18. Improved communication about the benefits of GPS technology would encourage its adoption.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
19. Collaboration with technology providers can enhance the effective use of GPS systems.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
20. Support from club management is crucial for overcoming barriers to GPS technology adoption.
- Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

Appendix 2: Interview Guide



Introduction

My name is....., and I am a final-year student..... at Bindura University, pursuing a degree in Sports Science. As part of my research project, I am conducting a study on the role of digital technology in optimizing football performance in elite football clubs in Zimbabwe. Your insights are invaluable in understanding how these technologies can impact player and team performance. This interview aims to gather your thoughts and experiences regarding the use of digital tools in football. Your participation is greatly appreciated, and all responses will be kept confidential.

Thank you for your time and support.

Interview

The purpose of these interviews is to gather qualitative data regarding the adoption of GPS tracking technology in the Zimbabwe Premier Soccer League (PSL). The questions are organized according to the study's objectives, allowing participants to share their insights and experiences in detail.

Section 1: Current Level of GPS Technology Adoption

1. Can you describe your club's current use of GPS tracking technology for monitoring player load?
2. How long has your club been utilizing GPS technology, and what motivated its adoption?

Section 2: Challenges Faced in Implementing GPS Tracking Technology

3. What primary challenges has your club faced in implementing GPS tracking technology?
4. How do you assess the technical knowledge of your coaching staff regarding GPS technology? Does this impact its adoption?

Section 3: Strategies for Enhancement

5. What strategies do you think could enhance the effective use of GPS tracking systems in your club?
6. How relevant do you believe training programs are for coaches and players in maximizing the benefits of GPS technology?

Conclusion

Thank you for sharing your insights! Your responses will contribute significantly to understanding the adoption of GPS tracking technology in the PSL.

Appendix 3: Sports Science Research Access Letter BSc

BINDURA UNIVERSITY OF SCIENCE EDUCATION



FACULTY OF SCIENCE AND ENGINEERING

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BINDURA, Zimbabwe

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icharumbira@buse.ac.zw

CHAIRPERSON DEPARTMENT OF SPORTS SCIENCE

7 April 2025

TO WHOM IT MAY CONCERN.

RE: UNDERGRADUATE DISSERTATION STUDY ACCESS REQUEST.

This is to certify that (Name and Student Number) is a bonafide Bachelor of Science in Sports Science and Management student in the Department of Sports Science at the Bindura University of Science Education. S/He is conducting an action research study entitled: **The Adoption of Digital Technology: The Role of GPS Tracking in Monitoring Player Load in the Zimbabwe Premier Soccer League (PSL)**. We are kindly requesting your organization to partner with her/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 analysed 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 feel free to contact us.

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

Yours Sincerely



Lysias Tapiwanashe Charumbira (Dr.)

