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FACULTY OF SOCIAL SCIENCES AND HUMANITIES

The effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe: A case study of Bindura University of Science Education

By

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Abstract

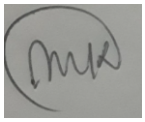
This study examined the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe, using the Bindura University of Science Education (BUSE) Innovation Hub as the case study. The study was underpinned by an interpretivist research philosophy, which holds that social reality is best understood through the meanings that participants attach to their lived experiences. A qualitative research methodology was adopted and operationalized through an exploratory case study design, which allowed the hub to be studied in its natural setting. The target population comprised approximately 120 active members of the BUSE Innovation Hub ecosystem, from which a sample of fifteen (15) participants was drawn, consisting of five (5) undergraduate students, five (5) postgraduate students, three (3) hub managers and two (2) hub entrepreneurs. Non-probability sampling, specifically purposive and snowball sampling, was used to select information-rich participants who were directly involved in the activities of the hub. Data were collected through semi-structured interviews, focus group discussions and document study, and were analysed thematically. The key findings were that the hub contributes meaningfully to skills development, entrepreneurial mind-set change, incubation support, networking and employability, but that most of the projects it supports remain at the ideation and prototyping stages and seldom reach full commercialisation. Six challenges were found to limit its effectiveness, namely financial constraints, infrastructure and resource limitations, weak industry linkages, bureaucratic barriers, mentorship gaps and macroeconomic instability. Participants' perceptions of effectiveness were mixed, combining appreciation of the skills and exposure gained with concern about limited job creation. The study concludes that the BUSE Innovation Hub functions effectively as a capacity-building and entrepreneurship development platform rather than as a direct job-creation mechanism, that its performance is strongly moderated by the external economic environment, and that a clear gap exists between innovation and commercialisation. It further concludes that youth unemployment is a multi-dimensional phenomenon that requires the combined effort of government, industry and higher education institutions, and that the effectiveness of innovation hubs should therefore be assessed by their capacity to build entrepreneurial ability and long-term economic opportunity rather than by immediate employment outcomes alone. The study recommends increased funding for innovation hub projects.

Declaration Form

I, Abigail V Chikuruwo, B223400B, solemnly declare that this dissertation is my own work and that it has not been copied or lifted from any source without acknowledgement of that source.

Student: This image cannot currently be displayed Date: 14 August 2026

Supervisor: This image cannot currently be d Date: 14 August 2026

Chairperson:  Date: 30/08/2026

Dedication

I dedicate this dissertation to my dear mother, who took on the role of both father and mother to me and whom I call her VaShumba thank you, Mum; to her sister, Mrs Chibvongodze; and to my brother and his wife, Mr and Mrs Nyamhuka. Their unwavering support, encouragement and hard work have been the foundation of my journey. I express my heartfelt gratitude for your sacrifices and your patience. Your support has been instrumental in making my academic years a success, and I feel truly blessed to have you in my life. I also dedicate this dissertation to myself, for not giving up despite the hardships I faced during my academic years, both in my personal life and in my studies.

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Lastly, I am forever grateful to my family for their patience and steadfast belief in my potential. Your emotional support, motivation and unconditional love carried me through every challenge and gave me the distinction of being the first graduate in the family.

List of Abbreviations and Acronyms

AU — African Union

BUSE — Bindura University of Science Education

FGD — Focus Group Discussion

HEI — Higher Education Institution

ILO — International Labour Organization

IP — Intellectual Property

IVSF — Interval-Valued Spherical Fuzzy

MCDM — Multi-Criteria Decision-Making

NGO — Non-Governmental Organisation

PPP — Public–Private Partnership

SDG — Sustainable Development Goal

SME — Small and Medium Enterprise

SWARA — Stepwise Weight Assessment Ratio Analysis

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

In the world today, unemployment among young people has become one of the most persistent challenges of the twenty-first century. According to the International Labour Organization (ILO, 2020), youth unemployment is three times higher than that of adults, and the number of jobless youths globally is more than 67 million. Governments, international bodies and universities have, in turn, increasingly sought to rely on innovation hubs, incubators and entrepreneurial ecosystems to foster employment and self-sufficiency. Research from Asian, European and North American countries shows that innovation hubs have the potential to incubate entrepreneurship and to build knowledge economies by connecting research results to market needs (Mwantimwa et al., 2022). The youth bulge continues to put strain on economies that are already plagued by structural weaknesses. Almost six in ten Africans are under the age of 25, which presents both a demographic opportunity and a major unemployment problem (African Development Bank, 2018).

Innovation hubs, in which digital skills are developed, businesses are incubated and start-ups are established, are now a major component of Africa's development agenda. Mwantimwa et al. (2021) describe how knowledge can be scaled up and how entrepreneurship can be embedded in economic ecosystems in their Tanzanian study. This is in accordance with African Union Agenda 2063, which identifies innovation-led growth as a key driver of sustainable development.

The unemployment challenge in sub-Saharan Africa is even more evident because of the lack of industrialisation, inadequate policy settings and heavy reliance on the informal sector. The

study by Àkànle and Omotayo (2020) on incubation hubs in Nigeria posits that such hubs serve as an avenue for addressing unemployment by building entrepreneurial and technical competence among youths. However, weak infrastructure, weak financial systems and limited institutional support often limit the effectiveness of these hubs. In the same vein, Bouraima et al. (2025) present a multi-criteria decision-making approach to tackling unemployment in developing countries, emphasising the need to consider youth perspectives, institutional capabilities and policy alignment in order to achieve sustainable solutions.

Youth unemployment in Zimbabwe has become a pressing socio-economic issue, with thousands of students graduating from tertiary institutions annually and entering a declining formal labour market. Mazikana et al. (2019) point out that there is a lack of linkage between education and the economy, with the result that educated youths are unable to contribute to wealth creation. In his study of the indigenisation policy, Dodo (2015) states that empowerment programmes initiated by the state have not been very effective in achieving sustainable employment. Similarly, Gukurume (2018) stresses the need for small and medium enterprises (SMEs) to be empowered as a means of job creation, but also points out that Zimbabwe faces an unstable macroeconomic environment that hinders the potential of SMEs.

It has been argued that innovation and structural change are crucial to combating unemployment in Zimbabwe. Innovation hubs are considered to represent a paradigm shift in employment creation because they connect higher education with industrialisation and with the country's development agenda, Vision 2030 (Hlungwani & Sayeed, 2019).

However, Chigudu (2021) cautions that challenges such as limited access to finance, poor mentorship and cultural beliefs about business risk still hinder entrepreneurial participation among youths. Bello et al. (2023) also point to the importance of entrepreneurial leadership in ensuring

that innovation-driven interventions result in employment opportunities rather than in short-term projects.

The Government of Zimbabwe introduced the Education 5.0 philosophy, which expanded the responsibilities of universities to cover teaching, research, community service, innovation and industrialisation. This change has led to the formation of university-based innovation hubs such as the Bindura University of Science Education (BUSE) Innovation Hub. The BUSE hub was established to nurture the ideas of young researchers and to help them turn those ideas into viable business ventures, thereby fostering entrepreneurship and contributing to job creation. The hub is an important development in the direction of innovation-driven development, but its effectiveness in reducing youth unemployment remains largely unexplored. Considering the socio-economic issues confronting Zimbabwean youths, it is important to discuss critically the performance of the BUSE Innovation Hub in stimulating entrepreneurship, overcoming challenges and influencing the perceptions of students and graduates regarding employment opportunities.

1.2 Purpose of the study

This study sought to explore how the Innovation Hub at Bindura University of Science Education supports innovation projects and inspires youths to pursue entrepreneurship as a means of tackling youth unemployment in Zimbabwe.

1.3 Statement of the problem

Zimbabwe has one of the highest youth unemployment rates in sub-Saharan Africa, with thousands of youths graduating annually from tertiary institutions without securing formal employment. Innovation hubs have been established as a solution intended to promote entrepreneurship, innovation and job creation. However, there is little empirical evidence to show whether these hubs, and in particular the hub at Bindura University of Science Education, are

fulfilling their intended objectives. In the absence of clear evidence, the sustainability and justification of innovation hubs as a national strategy for addressing unemployment remain unclear. This gap necessitates an exploration of the extent to which innovation hubs reduce youth unemployment, the barriers to their effectiveness and the potential solutions for improving that effectiveness.

1.4 Objectives of the study

The study sought to:

1. Identify the challenges faced by the Bindura University of Science Education Innovation Hub in implementing its mandate.
2. Assess the nature of the innovation projects supported by the Bindura University of Science Education Innovation Hub.
3. Assess the role of the Bindura University of Science Education Innovation Hub in promoting entrepreneurship among youths.
4. Evaluate the perceptions of students and graduates regarding the effectiveness of the Bindura University of Science Education Innovation Hub in addressing unemployment.

1.5 Research questions

The study was guided by the following research questions:

1. What challenges limit the effectiveness of the Bindura University of Science Education Innovation Hub?
2. What is the nature of the innovation projects supported by the Innovation Hub at Bindura University of Science Education?
3. What role does the Bindura University of Science Education Innovation Hub play in promoting entrepreneurship among youths?

4. How do students and graduates perceive the effectiveness of the Bindura University of Science Education Innovation Hub?

1.6 Assumptions of the study

This study assumes that innovation hubs, such as the one at Bindura University of Science Education, play an important role in addressing youth unemployment. It is based on the assumption that the hub enables youths to develop businesses, acquire skills and identify innovative ideas that result in job creation and improved livelihoods. The study also assumes that the hub is provided with appropriate facilities, resources and systems to support students and graduates who wish to transform their ideas into actual projects. Students, staff and graduates are expected to provide honest and helpful responses during interviews and discussions. Finally, the study assumes that the outcomes of the activities of the hub can be observed and linked to the extent to which the hub contributes to reducing youth unemployment.

1.7 Significance of the study

This study is important because it extends the academic literature by addressing a gap in scholarship on the effectiveness of innovation hubs in Zimbabwe, a subject that has not been widely studied. It focuses on the role of innovation hubs in reducing youth unemployment, with particular attention to the Bindura University of Science Education (BUSE) Innovation Hub. The study offers context-specific evidence that contributes to the current debate on the role of higher education institutions in innovation-led employment creation. Furthermore, the study provides policymakers with empirical evidence on the capacities and weaknesses of innovation hubs, which may result in better allocation of resources and improved policy design. The study also reveals aspects of the design and implementation of innovation hub programmes at Bindura University of Science Education, and at other higher education institutions, that need to be improved so that

these programmes become more responsive to industry needs and to entrepreneurial outcomes. The study illustrates the benefits that such hubs can offer to young people and students who participate in entrepreneurial activities, which can increase self-employment and enhance livelihoods. The study addresses a research gap on the role of innovation hubs in reducing youth unemployment in Zimbabwe. It offers data and contextual analysis that can be used as inputs into future research on innovation, entrepreneurship and employment creation. The results of this study can help policymakers to make informed decisions about the effectiveness of innovation hubs. By understanding their strengths and weaknesses, policymakers can create more effective frameworks.

The study highlights the opportunities that innovation hubs offer to students and young entrepreneurs, which can result in self-employment. The study strengthens the relationship between higher education institutions and national objectives such as employment creation, industrialisation and sustainable development. It highlights the role that universities can play as drivers of national innovation.

Lastly, the results can serve as a model for other institutions, universities and organisations in Zimbabwe and beyond. The study develops a framework that can be applied by other universities or organisations that wish to strengthen their innovation hubs. It shares lessons learned and good practices from the experience of Bindura University of Science Education in order to support the creation of a robust and interlinked network of innovation ecosystems in Africa.

1.8 Delimitations of the study

This study examined only the Bindura University of Science Education Innovation Hub and its associated stakeholders it did not examine other university innovation hubs in Zimbabwe.

Key stakeholders such as Bindura University of Science Education management, hub administrators, and students participating in the innovation hub were included in the research and not stakeholders outside this network, such as private stakeholders unrelated to the study. This enabled a direct and relevant assessment of the effectiveness of the innovation hub. Geographically, the study was confined to Bindura, where the university and its innovation hub are located. The study does not examine other objectives of innovation hubs, such as technological advancement, academic research and industrial innovation. The results of the study are therefore specific to the context studied and may not entirely be generalizable to other innovation hubs in Zimbabwe. The findings can nevertheless offer valuable lessons and models to other institutions that operate similar youth-focused innovation programmes.

1.9 Limitations of the study

The study was subject to possible response bias from participants. The results are not a complete reflection of the experiences of all innovation hubs in Zimbabwe, and the cost of the research also limited what could be undertaken. These limitations were addressed through the purposive selection of informed participants and through triangulation. The study was conducted at the Bindura University of Science Education (BUSE) Innovation Hub in Bindura. It was therefore not possible to extrapolate its findings to all innovation hubs in Zimbabwe or in other regions. The socio-economic and institutional contexts of other universities may differ, and these differences may influence innovation outcomes. The sample consisted of a small group of hub administrators, selected students and industry partners. This limited sample size affected the representativeness of the results in relation to the wider group of innovation hub users and stakeholders in Zimbabwe. Some institutional and financial information about the innovation hub and its funding was restricted because of confidentiality policies. This made the analysis less

comprehensive, particularly with regard to the financial sustainability and funding efficiency of the innovation hub. The researcher sought permission from the institution and gave assurances of confidentiality. As in most qualitative case studies, there was a possibility of researcher bias in the interpretation of data. The researcher used triangulation and validation techniques in order to maintain objectivity; nevertheless, personal perceptions or expectations may have affected the analysis to some extent. The researcher operated under financial constraints, which limited the scope of travel, the data collection tools used and the use of advanced research technologies. However, the available resources were used efficiently in order to ensure the quality and validity of the study.

1.10 Definition of key terms

Innovation hub - An innovation hub refers to a centre that provides resources and mentorship in order to support innovation and entrepreneurship (Etzkowitz & Leydesdorff, 2000). At Bindura University of Science Education (BUSE), the innovation hub serves as a space in which students, researchers and entrepreneurs work together to create solutions that promote entrepreneurship and employment opportunities. Innovation hubs are regarded as tools for economic development and youth empowerment in developing countries (Adegbite, 2017).

Youth unemployment -Youth unemployment refers to the state of joblessness among individuals aged 15 to 35 years who are unable to secure formal or informal employment despite being willing and able to work (ILO, 2017). This study highlights the challenges faced by Zimbabwean youths in securing jobs and the contribution of innovation hubs to reducing this burden through entrepreneurship (Chigunta, 2002).

Entrepreneurship -Entrepreneurship is the process of identifying, developing and managing a business venture in order to make a profit while taking risks (Schumpeter, 1934).

Within this study, entrepreneurship is a key mechanism through which innovation hubs empower youths to become self-employed and to contribute to economic growth (Naudé, 2010).

Start-up -A start-up is a newly established business, typically supported through incubation that is created by entrepreneurs in order to develop a product or service and bring it to market (Blank & Dorf, 2012).

Employability-Employability refers to the ability of individuals to gain and maintain progress in meaningful employment by possessing the necessary skills, knowledge, attitudes and personal attributes (Yorke & Knight, 2004). In this study, employability refers to the way in which innovation hubs enhance young people's readiness for work and their entrepreneurial success (Harvey, 2001).

1.11 Dissertation outline

Chapter One: Introduction- Chapter One introduces the study by outlining the background, the statement of the problem, the research objectives, the research questions and the justification for the study. It highlights the significance of the study, the strengths and weaknesses of innovation hubs and the definitions of the key terms used in the research.

Chapter Two: Literature review and theoretical framework- Chapter Two provides a review of existing scholarship on innovation hubs, youth unemployment and entrepreneurship. It examines previous studies, identifies research gaps and discusses the relevant theories that provide the conceptual and theoretical foundation of the study.

Chapter Three: Research methodology and design- Chapter Three explains the research design and the methodology used in the study. It sets out the research philosophy, the research

approach, the population, the sampling techniques, the data collection instruments, the data analysis methods and the ethical considerations that guided the research.

Chapter Four: Data presentation, analysis and discussion of findings- Chapter Four presents and analyses the data collected from the field at Bindura University of Science Education. The findings are interpreted in relation to the research objectives and to the existing literature. The chapter also discusses the effectiveness of the innovation hub in addressing youth unemployment and the experiences of its stakeholders.

Chapter Five: Summary, conclusions, recommendations and areas for further research -Chapter Five summarises the findings and draws conclusions in the light of the objectives of the study. It offers recommendations for policy, for the university and for youth entrepreneurs, and it proposes avenues for future research in the field of innovation hubs and youth empowerment in Zimbabwe.

CHAPTER TWO

2.0 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The previous chapter introduced the research problem, namely the effectiveness of innovation hubs in tackling youth unemployment in Zimbabwe. This chapter reviews the theoretical and empirical literature on innovation hubs, youth unemployment and entrepreneurship, with particular reference to Zimbabwe and to similar developing settings. The review draws on global, African and Zimbabwean scholarship in order to locate the Bindura University of Science Education (BUSE) Innovation Hub within the wider discourse on innovation-led solutions to youth employment. The chapter also connects the theory and practice

of innovation ecosystems and entrepreneurial leadership with the practical realities of innovation hubs as instruments for addressing youth unemployment.

2.2 Theoretical approaches to innovation and leadership in entrepreneurship

In order to grasp the dynamics of innovation hubs and their influence on youth employment, it is important to anchor the analysis in existing theories of leadership and innovation ecosystems. These models offer valuable insights into the processes through which innovation is developed, managed and transformed into entrepreneurial success in complex socio-economic settings.

2.2.1 Entrepreneurial leadership theory

Entrepreneurial leadership theory focuses on the role of leadership in fostering innovation and in providing an enabling environment for entrepreneurship. Bello et al. (2023) emphasise that entrepreneurial leaders are important in establishing a culture of risk-taking, creativity and value creation. Entrepreneurial leadership is not merely a style of management and control; it is the capacity to inspire individuals and groups towards worthwhile opportunities and to manage uncertainty effectively. Such leaders act as catalysts, not only in generating innovative ideas but also in shepherding those ideas through the commercialisation process, which in turn enables sustainable job creation.

This leadership style is particularly relevant to innovation hubs, where entrepreneurial leaders can assist young innovators in overcoming the hurdles of start-up development, market entry and growth. Entrepreneurial leaders can provide vision, mentorship and strategic direction that help to connect innovation with real jobs, and can ensure that innovation activity translates into economic growth and youth empowerment.

2.2.2 The innovation ecosystem and triple helix model

The triple helix model, as put forward by Etzkowitz and Leydesdorff (2000), provides a basic blueprint for explaining the institutional linkages that lie at the heart of innovation ecosystems. The main focus of the model is on the overlapping and interactive roles of three principal actors, namely universities, industry and government. All three are critical to establishing an environment that is conducive to knowledge development, technology transfer and entrepreneurial activity.

In this context, innovation hubs, and especially those located within universities, serve as key points of contact at which the academic, business and policy worlds interact. These hubs are designed to allow knowledge and resources to be shared, to enable collaborative problem-solving and to support the commercialisation of research products. Innovation hubs therefore represent the integrative approach of the triple helix by connecting the theoretical knowledge created in universities with the practical needs of industry and government.

The model also emphasises the role of government policy in providing enabling regulatory and financial environments, the role of industry in market-oriented innovation, and the role of universities in providing human capital and research. These interactions create a dynamic ecosystem that helps to foster innovation-driven entrepreneurship and regional economic development.

Applying the triple helix model to Zimbabwe's innovation centres makes it clear that the links among the different innovation actors, such as Bindura University of Science Education, industry and government, should be strengthened. Making these links more effective can improve knowledge transfer, direct innovation more accurately towards market needs and ultimately reduce youth unemployment through sustainable entrepreneurship.

2.2.3 Multi-criteria decision-making framework

Bouraima et al. (2025) propose a multi-criteria decision-making (MCDM) framework that can be used to address the multi-faceted problem of youth unemployment in developing countries. This approach is especially important because it acknowledges the complexity and interconnectedness of the factors affecting youth employment rather than relying on a one-size-fits-all solution, and because it adopts a more comprehensive and integrated perspective.

The MCDM approach identifies the most significant interventions in three priority areas, namely education system reform, sectoral development of the economy and the promotion of entrepreneurship. The framework takes into account both the supply side and the demand side, because sustainable solutions to youth unemployment must address education and training that meet the needs of the labour market as well as growth in key sectors and the encouragement of entrepreneurship.

In this context, education reform is intended to close the gap between the curriculum, the training offered and the skills required by the labour market, particularly in new and expanding industries. The sectoral approach involves developing target sectors that have the potential to create employment opportunities, such as agriculture, manufacturing and tourism, in order to enhance formal employment. The promotion of entrepreneurship is concerned with creating access to finance and mentorship and with establishing enabling environments that encourage innovation and business creation, thereby empowering young people.

Importantly, Bouraima et al. (2025) use decision-making tools such as Stepwise Weight Assessment Ratio Analysis (SWARA) within an interval-valued spherical fuzzy (IVSF) logic. This methodological discipline allows for the systematic weighting and ranking of strategies and for

the incorporation of expert input reflecting the trade-offs and priorities relevant to each country context.

In sum, this MCDM framework provides policymakers and stakeholders with a structure for tackling the complex interdependencies of innovation ecosystems. It helps them to prioritise and to allocate resources on the basis of evidence, and thereby increases the likelihood that interventions designed to address youth unemployment in developing country contexts will be effective and sustainable.

2.3 Conceptual framework: innovation hubs and youth unemployment

The conceptual framework for this study seeks to capture the multifaceted relationships between innovation hubs, entrepreneurial leadership, the capacities of youths and the socio-economic environment in Zimbabwe, as well as their combined impact on youth unemployment. The framework is built on existing theories such as the triple helix model (Etzkowitz & Leydesdorff, 2000), entrepreneurial leadership theory (Bello et al., 2023) and multi-criteria decision-making approaches (Bouraima et al., 2025). Together, these offer a comprehensive structure for understanding the functioning of innovation ecosystems as drivers of sustainable youth employment.

2.3.1 Inputs: resources, policies and youth capacities

The critical inputs underpinning the framework are the elements that make innovation hubs work. These include the physical and financial resources available within the hub, such as laboratory facilities, co-working spaces, seed funding and donor grants. Also critical is the availability of competent human resources, including mentors, trainers and entrepreneurial leaders who can facilitate knowledge transfer and capacity building (Mwantimwa et al., 2021). The policy and institutional environment also plays a crucial role as an input. The Government of Zimbabwe

has prioritised innovation and industrialisation as strategic priorities under its Education 5.0 policy; however, these policies need to be backed by enabling laws that facilitate business registration, intellectual property protection and access to finance (Àkànle & Omotayo, 2020).

Youth capacities constitute a second important input, and include the technical skills, entrepreneurial knowledge, motivation and access to social and business networks that youths bring to the innovation system. The alignment of these capacities with the demands of the labour market is important, as noted by Mazikana et al. (2019), who found a significant disconnect between education and employment realities in Zimbabwe.

2.3.2 Processes: innovation hub activities

At the heart of the framework are the processes that take place within the innovation hub and that convert inputs into tangible entrepreneurial outputs. These processes involve knowledge creation and knowledge transfer through training programmes, collaborative innovation sessions and research commercialisation activities, all of which foster a culture of innovation (Mwantimwa et al., 2021). Entrepreneurial support services such as business incubation, access to finance and markets, and mentorship by entrepreneurial leaders are central to helping young innovators build viable businesses.

The active engagement and participation of youths and of relevant stakeholders are also essential. Innovation hubs are not only physical locations but also platforms that give youths agency and voice and that provide community and industry linkages, thereby ensuring that innovation initiatives are grounded in actual market needs.

2.3.3 Outputs and outcomes: from innovation to employment

The first results of these processes are the number and variety of innovation projects launched, the establishment and development of start-ups, and the improvement of the skills and

entrepreneurial attitudes of young people. These are measurable indicators of the effectiveness of the hub in converting inputs into productive activity.

Long-term outcomes include higher levels of youth entrepreneurship, self-employment and employability, which in turn contribute to job creation. Moreover, the closer cooperation among universities, industry and government envisaged in the triple helix framework enhances the regional innovation ecosystem and contributes to sustainable economic development (Etzkowitz & Leydesdorff, 2000). If youths can create opportunities for themselves, they become job creators rather than job seekers, and societies can break cycles of dependency and unemployment.

2.3.4 Contextual factors: moderators of hub effectiveness

The framework recognises that external contextual factors play a significant role in moderating the performance and impact of innovation hubs. Inflation, political uncertainty and infrastructural deficits are all part of Zimbabwe's macroeconomic instability, which presents significant challenges for the growth and innovation of SMEs (Gukurume, 2018). Youth engagement is also shaped by cultural attitudes towards entrepreneurship, which may include a fear of risk or an entrepreneurial stigma (Chigudu, 2021). Moreover, external shocks such as the COVID-19 pandemic have affected economic activity, which makes it important for innovation ecosystems to be adaptive and resilient (ILO, 2022).

2.3.5 Impact: towards sustainable youth employment

In sum, the conceptual framework positions innovation hubs as enablers of the overall objective of lowering youth unemployment and of advancing Zimbabwe's socio-economic development agenda, including Vision 2030 and the Sustainable Development Goals (Togo & Gandidzanwa, 2021). The hubs promote innovation-driven entrepreneurship, which contributes to inclusive economic transformation and empowers youths as agents of change and growth.

2.4 Youth unemployment: global and African context

Youth unemployment has remained a significant and growing problem throughout the world, and its greatest impact is felt in developing countries, where economic weakness, population growth and structural problems limit job opportunities. The International Labour Organization (ILO, 2020) estimates that young people are three times more likely to be unemployed than adults and that more than 67 million young people across the world are unemployed. This is an alarming statistic that demonstrates the disproportionate effect of unemployment on young people and the need for innovative and context-specific responses.

The problem is especially acute in Africa, where population growth compounds the issue. The youth population in Africa is estimated at approximately 60 per cent of the continent's population, the highest proportion in the world (African Development Bank, 2018; United Nations, 2019). This youth bulge can become a youth dividend if it is leveraged optimally through the provision of employment opportunities. In the absence of such opportunities, however, it can become a socio-economic burden that worsens poverty, social unrest and inequality (World Bank, 2021).

This is confirmed by Bouraima et al. (2025), who emphasise the importance of integrated multi-criteria decision-making models tailored to the specific socio-economic contexts of developing countries. Their research calls for a combination of education system reforms that reflect the needs of the labour market, increased activity in selected economic sectors and the strong promotion of entrepreneurship. They argue that sustainable solutions to youth unemployment cannot be confined to individual actions and interventions but must be achieved through institutional capacity development, policy coherence and the active involvement of youths as agents of economic change.

Àkànle and Omotayo (2020) emphasise the relevance of incubation and innovation hubs in the empowerment of youths in sub-Saharan Africa, where the situation is more critical. These hubs offer young people the entrepreneurial and technical skills, mentorship and networks that are vital in helping them to make the transition from education to employment. However, such hubs are often handicapped by systemic challenges such as poor infrastructure, limited access to finance and policy environments that are not conducive to effective start-up formation and innovation (Chigudu, 2021; Mwantimwa et al., 2021).

Apart from structural barriers, socio-cultural factors also shape the dynamics of youth unemployment. The perception that entrepreneurship is risky, a weak culture of entrepreneurship and a limited number of entrepreneurial role models may all discourage youths from exploring opportunities in self-employment (Bello et al., 2023). These points indicate that a comprehensive approach to youth employment needs to combine social and behavioural change programmes with economic programmes.

Additionally, the COVID-19 pandemic has added further layers of complexity to the situation of youth employment, since it disrupted education, reduced economic activity and led to job losses, especially among young people (ILO, 2022). The pandemic has left lasting impacts that require a renewed focus on resilient and adaptive approaches to employment, such as digital skills development and flexible entrepreneurship support systems (Bouraima et al., 2025). External factors can therefore disrupt job opportunities for youths, although in most developing countries such disruption has been accompanied by advances in technology.

2.5 Innovation hubs as catalysts for youth employment and entrepreneurship

Innovation hubs have become key drivers of entrepreneurship, innovation and job creation, especially among young people in developing countries. These hubs are dynamic spaces that allow

young innovators to access the resources that are key to turning ideas into sustainable businesses. Adegbite (2017) emphasises the importance of innovation hubs in offering mentorship, skills development, networking opportunities and access to seed funding, all of which contribute to reducing the barriers to entrepreneurship and improving the chances of successful start-ups. This is corroborated by the pioneering research of Etzkowitz and Leydesdorff (2000), who theorised the triple helix model that highlights the synergy between universities, industry and government in developing innovation ecosystems. Innovation hubs, which may be university based, form the nodes of this network, and it is within them that knowledge sharing and entrepreneurship take place.

2.5.1 Contribution to knowledge creation and transfer

In order to gain an empirical understanding of the role of innovation hubs as facilitators of knowledge co-creation and transfer, Mwantimwa et al. (2021) conducted a study in Tanzania. They found that these hubs do not merely provide a physical space or financial aid but also create an environment that supports and promotes innovation and helps to prepare young people for the skills required by the market. This role is also important for the wider objective of stimulating entrepreneurship as a major driver of sustainable development in Africa, as outlined in African Union Agenda 2063, which underscores the need for innovation-led development.

The X-Innovation Hub in Tanzania is a good example of an innovation hub that enables young entrepreneurs to develop new products and services for the knowledge economy (Mwantimwa et al., 2021). The study identifies several activities through which youth participants are encouraged to learn through experience and to spread a culture of innovation, including collaborative problem-solving sessions, prototyping workshops and pitch competitions.

However, the study also identified challenges that arise when innovations are converted into viable and sustainable entrepreneurial ventures. Funding remains a key and significant challenge, and many start-ups are unable to obtain the investment they need beyond initial seed funding. Furthermore, the legal and regulatory landscape in some developing countries creates hurdles related to business formalisation, intellectual property protection and market entry (Bello et al., 2023; Mwantimwa et al., 2021). These factors can constrain the scale and impact of innovation hubs, and integrated policy change and diversified funding models are therefore crucial to the effective support of youth entrepreneurship ecosystems.

2.5.2 Challenges faced by innovation hubs

Although innovation hubs clearly have great potential to drive youth entrepreneurship and employment, they are also affected by a variety of structural and systemic issues that limit their effectiveness. Financial sustainability is a major concern. According to Mwantimwa et al. (2021), many innovation hubs in Africa remain largely reliant on international donor funding, which is often short term and inadequate to sustain them in the long term. Such dependency creates uncertainty, which restricts the capacity of hubs to plan strategically, to invest in important infrastructure and to provide ongoing support services to entrepreneurs.

Furthermore, the legal and regulatory landscape in many African countries can be challenging for start-up development. Cumbersome business registration procedures, weak intellectual property protection and limited access to formal financial markets are all factors that discourage young entrepreneurs from formalising and expanding their businesses (Àkànle & Omotayo, 2020). Such limitations make entrepreneurship less attractive as a career choice and hold back the development of innovative ideas into business ventures.

Chigudu (2021) offers a detailed analysis of the multiple challenges experienced by young people in Zimbabwe when accessing entrepreneurship through innovation hubs. These include limited access to finance, which hinders the ability to scale up promising ideas; a lack of mentorship and professional networks, which are key to guidance and market access; and entrenched cultural attitudes that regard entrepreneurship as risky or inappropriate for young people, which reduces their motivation and engagement.

Bello et al. (2023) also assert that these challenges need to be addressed through robust entrepreneurial leadership within innovation hubs. Strategic vision, the mobilisation of resources and the creation of an enabling environment by effective leadership can help to move innovation activities towards sustainable employment outcomes rather than short-term projects. Entrepreneurial leaders within hubs serve as drivers of resilience, risk-taking and institutional capacity building in support of youth entrepreneurship ecosystems.

2.6 Innovation and youth unemployment in Zimbabwe

Zimbabwe has one of the highest rates of youth informal employment in sub-Saharan Africa, a situation exacerbated by wider structural problems in the country's economy and education system. Mazikana et al. (2019) have pointed out key disconnects between the skills that educational institutions provide and the skills that are needed for labour market participation, which leads to many graduates being under-employed. This disconnect contributes to youth unemployment, since young people are not well prepared to meet the demands of an evolving economy.

In addition, Zimbabwe's economy is highly informal and under-industrialised, which means that few formal job opportunities are available (Gukurume, 2018). The informal sector has provided employment to some youths, but these jobs are often poorly paid and lack social

protection or opportunities for advancement, thereby entrenching poverty and under-employment (Manyati & Mutsau, 2019). The limited industrial base also makes it difficult for the country to create quality jobs in large numbers, and innovative solutions to youth employment are therefore needed.

2.6.1 The role of higher education and innovation hubs in reducing unemployment

The Government of Zimbabwe has responded to these challenges by introducing the Education 5.0 philosophy, an agenda that seeks to reposition higher education so that it serves national development goals more effectively (Togo & Gandidzanwa, 2021). This paradigm places universities in the arena of innovation, entrepreneurship and community development rather than confining them to teaching and research. Education 5.0 places emphasis on industrialisation and technological progress, as well as on job creation through innovative approaches.

This new approach is evident in university-based innovation hubs such as the Bindura University of Science Education (BUSE) Innovation Hub. These hubs are designed to act as incubators that foster and develop entrepreneurial talent among students and graduates and that offer connections to resources, mentorship and platforms for commercialising research outcomes. Hlungwani and Sayeed (2019) suggest that such hubs can stimulate entrepreneurship and academic–industry linkages, and can thereby catalyse the process of structural economic transformation. Innovation hubs help to develop a more responsive education-to-employment pipeline, which reduces structural unemployment by aligning academic research with the needs of industry and the market.

Furthermore, they can help to foster practical skills and to encourage a culture of innovation, which is essential for empowering young people in Zimbabwe's challenging economic climate (Bello et al., 2023). They also play an important role in stimulating the growth of small

and medium enterprises (SMEs), which are widely believed to be the most significant source of employment creation and economic diversification in Zimbabwe (Gukurume, 2018).

Empirical studies of innovation ecosystems in Zimbabwe have highlighted the important role of SMEs in absorbing unemployed youths and in enhancing wealth creation. Mazikana et al. (2019) show how SMEs can be a key source of employment creation, especially for young graduates who are less successful in accessing formal employment. In the same vein, Manyati and Mutsau (2019) highlight the role played by SMEs in economic activity and community development in urban areas such as Harare, and note that, through innovative solutions to local needs, SMEs have provided an avenue for youths to escape unemployment.

However, despite this potential, the growth and contribution of SMEs in Zimbabwe are severely constrained by the volatile macroeconomic environment. Gukurume (2018) identifies persistent inflation, political tension and inadequate infrastructure, including unreliable electricity supply, as major issues that constrain the growth of SMEs and their potential to make a significant impact on innovation ecosystems. These external factors create an unstable business environment that discourages investment and innovation and that limits the range of activities open to youth entrepreneurship schemes.

With regard to youth empowerment, Dodo (2015) provides a critical evaluation of state-sponsored programmes such as the indigenisation policy, which sought to encourage youths to become involved in economic activity. Dodo argues that these initiatives have often been unsuccessful in creating viable employment opportunities because they are top-down, because they do not engage meaningfully with markets and because they are poorly supported. Instead, the study recommends market-based models of entrepreneurship, including innovation hubs and incubators,

which are more likely to respond to the changing needs of youth entrepreneurs and to produce more resilient business models.

In this regard, Bello et al. (2023) similarly emphasise the need for entrepreneurial leadership in innovation hubs. Their research finds that good leadership is required if innovation activities are to be translated effectively into jobs. Entrepreneurial leaders within innovation hubs help to mobilise resources, to mentor young entrepreneurs and to link innovation activities with the market, thereby increasing the opportunities to generate sustainable employment rather than one-off or temporary successes.

Taken together, the empirical results indicate that, if Zimbabwe's innovation ecosystems and SMEs are to contribute to reducing youth unemployment, macroeconomic stability, entrepreneurial opportunities and capacities need to be improved, as does the leadership of those who manage innovation platforms.

2.7 Chapter summary

The literature surveyed indicates that innovation hubs are important platforms for knowledge transfer, entrepreneurship development and youth employment in developing countries. However, financial, policy and socio-cultural challenges limit the extent to which these hubs can realise their full potential. The innovation hub model in Zimbabwe is aligned with national development goals and must be evaluated in order to determine its effectiveness in addressing the problem of youth unemployment. This research aims to bridge this gap by exploring the role of the BUSE Innovation Hub, the challenges it faces and the results it obtains, which will help to advance both theory and practice on innovation-led youth employment. The methodology adopted by the researcher in carrying out the study is elaborated in the next chapter.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

The previous chapter presented a literature review and the theoretical underpinnings of the theme of the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe, with Bindura University of Science Education as the case study. This chapter details the research philosophy, the research approach and the research design that were used in the study. It also describes the study area, the target population, the sampling procedures, the data collection methods, the data analysis techniques and the ethical considerations that guided the research. The methodology was selected because the study required qualitative information.

3.2 Research philosophy

This study was underpinned by an interpretivist research philosophy. Interpretivism holds that social reality is not objective and external to the individual but is constructed through the meanings that people attach to their experiences. It therefore requires the researcher to understand phenomena in their natural context through interpretative and contextual analysis rather than through statistical measurement. This philosophy was appropriate for the present study because the effectiveness of the Bindura University of Science Education Innovation Hub can only be understood through the lived experiences, perceptions and interpretations of the students, graduates, hub managers and hub entrepreneurs who participate in its activities. The interpretivist position also justified the use of a qualitative approach, an exploratory case study design and data collection methods that privilege depth of meaning, namely semi-structured interviews, focus group discussions and document study.

3.3 Research approach

A research approach is an arrangement of research criteria that shows the sequential flow of a study from assumptions to detailed data gathering techniques, investigation and understanding, and it may be qualitative, quantitative or mixed (Creswell, 2012). A qualitative research approach was used in this study. This is because the essence of the qualitative research objective is to understand phenomena in their natural context by using interpretative and contextual analysis. As Anderson and Arsenault (2019) state, qualitative research is concerned with depth rather than quantity and uses a variety of methods to understand and explain social phenomena. This approach was chosen because it is flexible, because it allows dynamic interaction between the researcher and the participants, and because it can provide a deeper understanding of lived experiences.

The qualitative approach was especially suitable for this study because it allowed for an in-depth investigation of the complex social processes and relationships that underlie innovation and youth employment. One of its major advantages is its ability to generate detailed and nuanced data. Interviews and focus group discussions were used to gather rich narratives that enabled participants to offer detailed and valuable perspectives. Furthermore, because it is a qualitative approach, it was flexible enough to allow new themes to emerge and lines of inquiry to be modified during the process of data collection (Creswell, 2013). This approach also helps the researcher to understand social problems holistically, as problems that are influenced by cultural, historical and contextual factors.

3.4 Research design

Yin (2017) and Creswell (2019) define a research design as the general plan that coordinates the various parts of a piece of research in a rational and logical manner, thereby

ensuring that the research problem is tackled effectively. It is the outline of the collection, quantification and analysis of data (Mizukoshi, 2023). A qualitative exploratory case study design was considered ideal because it provides an in-depth, rich and holistic description of the issue under investigation (Rosenberg & Yates, 2007). It also allows various sources of data to be used in order to obtain a complete picture of the case. This design enabled the researcher to analyse the working of the Bindura University of Science Education Innovation Hub in its natural environment. In addition, it allows complex social phenomena to be studied in depth in their natural settings, thereby producing a deeper understanding of the phenomena studied (Menheim, 2019).

3.5 Target population

The term target population refers to the entire group of individuals, events or objects that a researcher aims to study and to which the researcher wishes to generalise the findings. According to McLeod (2020), a target population is the complete set of individuals from which a sample can be drawn. In this study, the population was carefully chosen in order to ensure that the results would be relevant and meaningful to those most affected. Attention was also given to capturing the diversity within the population so that a variety of perspectives could be represented. The study focused on undergraduate students, postgraduate students, hub managers and hub entrepreneurs drawn from the innovation hub at Bindura University of Science Education. The population consisted of five undergraduate students, five postgraduate students, three hub managers and two hub entrepreneurs. These groups were chosen because they are directly involved in the hub and can provide valuable insights. This mix of participants helped to ensure that the study captured different perspectives on how innovation hubs address youth unemployment. According to Hosan

et al. (2023), selecting participants in this way makes the findings of a study more reliable and credible.

3.6 Sample size

The sample size for this study was determined mainly by the qualitative nature of the research and by the principle of data saturation. In qualitative studies, the main focus is on the depth, richness and relevance of the data rather than on numerical representation (Creswell, 2019). The selected sample provided detailed information on the effectiveness of innovation hubs in addressing youth unemployment at Bindura University of Science Education. The study comprised a total of fifteen (15) participants drawn from the Bindura University of Science Education Innovation Hub ecosystem. These included five (5) undergraduate students, five (5) postgraduate students who participated in innovation hub activities, three (3) hub managers and two (2) hub entrepreneurs. The same participants took part in three (3) focus group discussions (FGDs) of five (5) participants each. The FGDs were useful in capturing shared experiences, common challenges and collective coping strategies among youths involved in innovation and entrepreneurial activities. The selected participants were directly involved in innovation hub programmes and in informal entrepreneurial ventures, which made the information they provided reliable for the purposes of the study. Their participation allowed the researcher to obtain in-depth perspectives on how the innovation hub contributed to job creation, skills development and youth empowerment. Data collection proceeded until no new themes emerged, which indicated that saturation had been achieved (Guest et al., 2014). During data collection, participants were guided by open-ended questions such as: How has the innovation hub helped to create jobs and to empower young people to overcome unemployment challenges? This question facilitated

reflective discussion and ensured that the data collected addressed the core objective of the study directly.

3.7 Purposive sampling

Purposive sampling involves deliberately selecting individuals who possess specific characteristics, knowledge or experiences relevant to the research topic (Palinkas et al., 2015). The researcher intentionally identified participants who could provide rich, detailed and meaningful information on the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe. In this study, purposive sampling was appropriate because not all members of the hub are actively involved in all its activities. The study required participants with direct experience who were key informants familiar with the subject matter, namely undergraduate students, postgraduate students, hub managers and hub entrepreneurs. Participants were selected on the criterion of active involvement in the innovation hub's programmes and initiatives. This included individuals who had either managed the hub's programmes or been directly affected by them. Purposive sampling ensured that the data collected were focused on the objectives of the study and allowed the researcher to target information-rich cases that offered deeper understanding.

3.8 Data collection methods

According to Kothari (2019), data collection is the systematic process of gathering information from the field in order to address research objectives. In this study, both primary and secondary data sources were essential. In order to collect primary data, the research employed semi-structured interviews, focus group discussions and document review. These methods were chosen in order to gain diverse and in-depth insights from participants and to allow for a comprehensive understanding of the role of innovation hubs in addressing youth unemployment in Zimbabwe.

3.8.1 Semi-structured interviews

Qualitative interviewing refers to a structured yet flexible conversation in which the researcher actively listens to the participant in order to uncover the underlying meaning of the responses given. This provided consistency and, at the same time, the flexibility to pursue relevant avenues as they arose. In this study, semi-structured interviews were used in order to increase the quality and depth of the data collected and to reduce potential bias. The process allowed the researcher to capture rich, diverse and detailed information in a non-threatening and comfortable setting (Patton, 2022). Closed-ended questions have the limitation that they may not fully convey personal experiences, emotions and perspectives, which semi-structured interviews are able to capture.

This technique has a number of benefits. It provides genuine and context-specific information and gives the interviewer the flexibility to adjust or rephrase questions as needed. The drawback of interviews, however, is that they can be time-consuming and expensive to undertake (Lincoln, 2019). Interviews proved to be a suitable method for this study, since they enabled a detailed examination of the experiences and perspectives of the interviewees regarding the function of innovation hubs.

In-depth, one-to-one semi-structured interviews were used in the study. These enabled the researcher to ask open-ended questions and to probe with further questions, which gave participants an opportunity to describe their experiences as these unfolded. This was especially useful in gaining insight into the realities of life for young people without work.

3.8.2 Focus group discussions

Focus group discussions (FGDs) were also used as a major data collection technique in this study. A distinctive feature of focus group discussions is that they rely on group interaction to

produce data and insights that would not otherwise be obtained in individual interviews (Morgan, 2017). This method was especially appropriate because of the social dynamics of the target population, particularly among youths. Peer groups are common among young people, and it can be difficult to separate individuals from them for one-to-one interviews. For this reason, focus group discussions provided an appropriate forum for involving them as a group.

These discussions took place in small group settings and involved open discussion of the key themes of the study. This approach was found to be helpful when examining potentially sensitive topics, since participants tended to be more willing to speak in a group environment. There is, however, a drawback to conducting focus group discussions, namely the possibility of social desirability bias, which arises when group members provide responses that they think are more desirable or acceptable to the researcher or to other members of the group. Despite this obstacle, the method proved effective in obtaining a variety of points of view in a shared social setting.

3.8.3 Document study

Document analysis involves gathering and studying information from existing and published documents (Kothari, 2019). In this study, secondary data sources such as academic journals, textbooks, online publications, newspapers and scholarly articles were used. These sources played a vital role in supporting the research, especially in cases where direct responses from participants were limited or unavailable. Secondary data were necessary because they provided important insights and background information about the topic and the geographical area of the study. They also gave access to a wider range of information, which lent the findings greater richness and credibility. The study adopted broad and reputable referencing, which enabled it to rest on a solid theoretical and empirical basis.

3.9 Validity and reliability

Validity and reliability are important in ensuring that research findings are accurate, consistent and trustworthy. In quantitative research, validity is used to determine whether a study measures what it is supposed to measure, and reliability is used to determine whether the measurement is consistent over time. In qualitative research, these concepts are addressed through the concept of trustworthiness proposed by Lincoln and Guba (1985). Trustworthiness comprises credibility, dependability, confirmability and transferability.

3.9.1 Validity

Validity refers to the extent to which a study accurately reflects or measures what it intends to investigate. In quantitative research, validity is often divided into internal validity and external validity. Internal validity concerns whether the findings accurately represent the reality of the participants studied, while external validity relates to the extent to which findings can be generalised to other contexts. In qualitative research, validity is addressed through the concept of trustworthiness proposed by Lincoln and Guba (1985). Within this framework, credibility corresponds to internal validity, since it ensures that the findings accurately represent participants' lived experiences and perspectives, and transferability corresponds to external validity, since it allows readers to determine whether the findings may be applicable to other similar contexts. In this study, validity was ensured through the strategies described below.

3.9.1.1 Credibility

Credibility was enhanced through prolonged engagement in the innovation hub at Bindura University of Science Education, which built trust and deepened contextual understanding. It was further enhanced through in-depth interviews that allowed participants to express their experiences fully and through the triangulation of participants, including undergraduate students, postgraduate

students, hub managers and hub entrepreneurs, who were given the opportunity to verify and clarify their responses. These strategies ensured that the findings genuinely reflected participants' perspectives on the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe.

3.9.1.2 Transferability

Transferability was ensured by providing thick descriptions of the innovation hub at Bindura University of Science Education and of the nature of its programmes and activities, and by clearly outlining the research setting, the sampling procedures and the data collection methods. This enables other researchers or practitioners to determine whether the findings may apply to similar innovation hubs at other institutions.

3.9.2 Reliability

Reliability is defined as the consistency and stability of the research process and its findings. In quantitative research, reliability concerns whether the same results would be obtained if the study were repeated under similar conditions. In qualitative research, reliability is addressed through the trustworthiness criteria of dependability and confirmability proposed by Lincoln and Guba (1985). In this study, reliability was ensured through the strategies described below.

3.9.2.1 Dependability

Dependability refers to the stability and consistency of the research process over time. It asks whether the findings of the study would hold true if the study were repeated in the same context with the same participants. Dependability was enhanced by using a structured interview guide so that all interviews were conducted in the same manner, by making detailed field notes during data collection, by clearly documenting sampling decisions, research procedures and data

analysis steps, and by maintaining an audit trail showing how conclusions were reached. These measures ensured that the research process was systematic, logical and traceable.

3.9.2.2 Confirmability

Confirmability concerns the extent to which the results reflect the participants' perspectives rather than the researcher's bias, motives or personal assumptions. The researcher practised reflexivity by recognising personal beliefs and possible biases, by documenting data collection and analysis procedures carefully, and by presenting direct quotations from participants in Chapter Four in order to show that the findings are grounded in actual data. These strategies ensured that the conclusions drawn were based on evidence rather than on subjective interpretation.

3.10 Data presentation and analysis

Data analysis in qualitative research involves organising and interpreting data and identifying patterns within them. Thematic analysis, which is one of the most commonly used methods of qualitative data analysis (Braun & Clarke, 2006), was used as the main method of analysis in this study. Thematic analysis is a process of identifying themes, patterns and meanings in data. The collated data were sorted according to the key themes that emerged during the research. Thematic analysis was chosen for this study because it is able to reduce some of the unnecessary repetition found in other case study approaches, as noted by Burgess (2020). Once the data had been collected, the researcher reviewed and interpreted the field notes and related them in depth to the literature and to the theoretical framework. This included organising the fieldwork data systematically into themes that emerged from patterns in the data. Furthermore, the analysis was conducted by cross-referencing the primary data with secondary data in order to ensure consistency and to strengthen the validity of the findings.

3.11 Ethical considerations

Throughout the study, the rights of participants were prioritised and measures were taken to ensure their well-being. These measures included obtaining informed consent, establishing trust, ensuring confidentiality and anonymity, and allowing participants the freedom to withdraw at any point if they felt uncomfortable or unwilling to answer certain questions. The researcher made a conscious effort to ensure that the anonymity of all participants was maintained by not using any names or identifying information in the reporting or presentation of the findings.

3.11.1 Confidentiality and anonymity

Respecting confidentiality was an important ethical consideration in a study of this nature. Protecting the anonymity of participants, both directly and indirectly, helped to avoid potential social stigma or discrimination. All data collected were kept secure and were accessible only to the researcher. All identifying information was redacted when the results were reported, in order to protect the privacy of participants.

3.11.2 Informed consent

This research was based on informed consent. Participants were fully informed about the aims, methods, potential risks and benefits of the study, in accordance with the ethical guidelines issued by the World Medical Association (2013). Participants were told why the study was being conducted, that their participation was voluntary and that they could withdraw from the study at any time. Interviews were conducted only after written or verbal consent had been obtained.

3.11.3 Permission and institutional approval

Before data collection, permission was obtained from the Department of Peace and Governance at Bindura University of Science Education and from the management of the BUSE Innovation Hub. These ethical measures upheld and demonstrated respect for the rights, dignity

and safety of participants. Copies of the permission letters are attached as Appendix D and Appendix E.

3.11.4 Respect for autonomy and privacy

In order to ensure the autonomy and privacy of participants, the study allowed them to decline to take part, to withdraw at any time during the study and to give partial answers if they did not feel comfortable. The researcher created a non-coercive and safe space in which participants could share their experiences and opinions.

3.12 Possible limitations

The study faced challenges arising from the reluctance of some participants to share information, which posed difficulties for the researcher. In order to overcome this, confidentiality was guaranteed and participants were assured that their answers would remain anonymous. Occasionally, respondents' opinions differed from those of the researcher; in such cases the researcher explained that the purpose of the study was to promote academic inquiry and that honest and open participation was desired.

3.13 Chapter summary

This chapter has presented the research methodology adopted in the study. It began with an explanation of the interpretivist philosophy and the exploratory framework, and highlighted the use of a qualitative approach. The case study design was identified as the most appropriate design for this study, and a description of the study area was given. The research instruments used in data collection were also described, together with the sampling techniques, the measures taken to ensure validity and reliability, and the ethical considerations observed. Lastly, the chapter presented the procedures used to analyse the data. The results of the study are presented and analysed in the next chapter.

CHAPTER FOUR

4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

The previous chapter presented the research methodology used in this study, including the research design, the sampling techniques and the data collection methods. This chapter presents, analyses and discusses the findings of the study on the effectiveness of the Bindura University of Science Education (BUSE) Innovation Hub in addressing youth unemployment in Zimbabwe. The organisation of the chapter reflects the research objectives presented in Chapter One and is informed by the theoretical frameworks presented in Chapter Two, namely entrepreneurial leadership theory, the triple helix model and the multi-criteria decision-making (MCDM) framework. The analysis uses the qualitative thematic approach outlined in Chapter Three. The data were obtained through face-to-face semi-structured interviews and focus group discussions, and the results are presented thematically according to the objectives of the research. In order to enhance clarity and analytical depth, tables, a graphical representation and selected participant quotations are incorporated.

4.2 Data sources and participant profile

The data for this study were obtained through face-to-face semi-structured interviews and focus group discussions with participants selected from the BUSE Innovation Hub ecosystem. As set out in Chapter Three, the fifteen (15) participants comprised five (5) undergraduate students, five (5) postgraduate students, three (3) hub managers and two (2) hub entrepreneurs. The choice of participants enabled the study to capture the perspectives of those directly engaged in the

activities, governance and outcomes of the innovation hub, which helped to build the credibility and relevance of the findings.

4.3 Approach to data analysis

Thematic analysis (Braun & Clarke, 2006) was used to analyse the data. This included the transcription of interview data, coding, the identification of patterns and the grouping of themes. Both deductive and inductive approaches were used. Coding was carried out deductively on the basis of the research objectives and inductively on the basis of the participants' responses in order to establish the themes. This ensured a comprehensive understanding of the effectiveness of the innovation hub.

4.4 Findings based on research objective one: challenges limiting the effectiveness of the innovation hub

The study identified several key challenges that limit the effectiveness of the BUSE Innovation Hub in addressing youth unemployment. These are summarised in Table 4.1.

Table 4.1
Challenges limiting the effectiveness of the BUSE Innovation Hub

Theme	Description	Impact
Financial constraints	Limited funding for projects	Limits scaling
Infrastructure limitations	Lack of equipment and resources	Reduces productivity
Weak industry linkages	Limited partnerships	Poor commercialisation
Bureaucratic barriers	Slow administrative processes	Delays innovation
Mentorship gaps	Inconsistent support	Weak business growth
Macroeconomic instability	Economic uncertainty	Risk of start-up failure

Source: Field data (2026).

4.4.1 Financial constraints

The most important constraint identified in relation to the innovation hub was financial. Participants identified the lack of funding opportunities as a challenge for project development, prototyping and scaling.

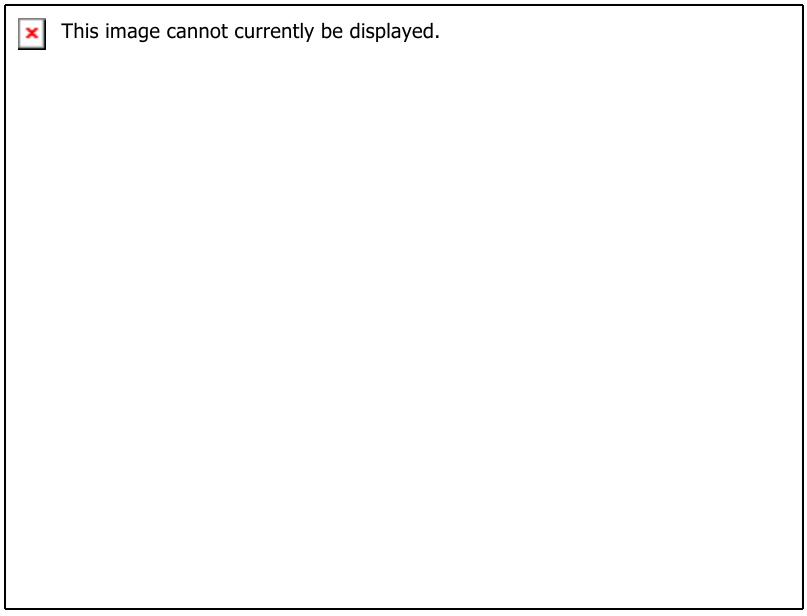
One participant stated:

> We are working on some good ideas, but taking prototypes to real businesses is difficult without funding.

This finding indicates that the hub is supportive of ideation but that the finances required to support commercialisation are not available. This corresponds to research showing that financial restrictions are a significant constraint on innovation hubs in developing countries (Mwantimwa et al., 2021).

Figure 4.1 presents the frequency with which each of the challenges was raised by participants.

Figure 4.1: Frequency of challenges affecting innovation hub effectiveness



Source: Field data (2026).

4.4.2 Infrastructure and resource limitations

Participants identified a lack of equipment, shared work areas and general infrastructure. As Figure 4.1 shows, infrastructure limitations were the second most frequently cited challenge. Such restrictions have a detrimental impact on productivity and hinder innovation efforts.

4.4.3 Weak industry linkages

The study revealed that there is limited interaction with industry, which restricts the ability of innovators to commercialise their work and to access markets.

A participant noted:

> The hub gives us ideas, but we still have a long way to go to bring the ideas to the market because we do not have strong industry connections.

This reflects a gap in the triple helix model, in which industry is not sufficiently engaged, and this in turn affects innovation outcomes.

4.4.4 Bureaucratic barriers

Participants also reported that slow administrative processes within the institution delay innovation, as summarised in Table 4.1. As Figure 4.1 indicates, bureaucratic barriers were the least frequently cited of the challenges captured in the graphical presentation, although they were nevertheless raised consistently enough to constitute a distinct theme.

4.4.5 Mentorship gaps

Mentorship is present within the hub, but it is neither consistent nor specialised. This affects the capacity of young business owners to handle the difficulties they encounter in business.

4.4.6 Macroeconomic instability

The state of the Zimbabwean economy was cited as a key external factor. Inflation and economic uncertainty have a negative impact on the sustainability of start-ups.

4.5 Findings based on research objective two: the nature of innovation projects supported by the hub

The study found that the BUSE Innovation Hub is a platform that supports several different types of innovation project. These are summarised in Table 4.2.

Table 4.2
Types of innovation projects supported by the BUSE Innovation Hub

Category	Description	Employment potential
Product based	Physical goods	Moderate
Digital and service based	Applications and services	High
Research commercialisation	Academic innovations	Long term

Source: Field data (2026).

Most projects were found to be at the early stages of development, such as ideation and prototyping, with only limited transition into full commercialisation.

4.6 Findings based on research objective three: the role of the hub in promoting entrepreneurship

The innovation hub plays a significant role in promoting entrepreneurship among youths. The roles identified by participants are summarised in Table 4.3.

Table 4.3
Roles of the BUSE Innovation Hub in promoting entrepreneurship

Role	Description	Outcome
Skills development	Training programmes	Improved capacity
Mindset change	Encourages entrepreneurship	Self-employment
Incubation support	Start-up guidance	Business development
Networking	Exposure to opportunities	Partnerships
Employability	Practical experience	Job readiness

Source: Field data (2026).

A participant highlighted the impact of the hub on mindset:

> The innovation hub changed how I think. Before, I was looking for a job, but now I am thinking about creating my own business.

This indicates that the hub plays a critical role in transforming the perspectives of youths towards entrepreneurship.

4.7 Findings based on research objective four: perceptions of the effectiveness of the hub

Participants' perceptions of the innovation hub were mixed, as summarised in Table 4.4.

Table 4.4
Participants' perceptions of the effectiveness of the BUSE Innovation Hub

Perception	Interpretation
Positive	Skills and exposure gained
Negative	Limited job creation
Neutral	Depends on individual effort

Source: Field data (2026).

Participants acknowledged the value of the hub in building skills and confidence. However, concerns were raised about the limited creation of jobs and the limited scaling of projects.

4.8 Integrated discussion

The results show that the role played by the BUSE Innovation Hub in mitigating youth unemployment is significant but limited. Viewed through the triple helix approach, the university has been effective in playing its part as far as innovation and capacity building are concerned. However, low levels of industrial collaboration result in the poor commercialisation of innovations. Entrepreneurial leadership theory emphasises the need for mentorship and leadership skills; although the hub has provided motivation and leadership, gaps in mentorship contribute to failure. The multi-criteria decision-making framework further indicates that unemployment requires multi-faceted solutions rather than a single intervention.

4.9 Chapter summary

This chapter has presented and discussed the results of the study conducted in order to evaluate the effectiveness of the BUSE Innovation Hub in reducing youth unemployment. It is clear from the results obtained that several challenges are involved, namely financial constraints, inadequate infrastructure, weak linkages with industry, bureaucratic barriers, gaps in mentorship and macroeconomic instability. The study found that, although the hub is instrumental in creating awareness of entrepreneurship and in building the capabilities of youths, it has not played an active role in creating job opportunities. The findings obtained from participants reflect both positive and negative aspects of the innovation hub. The next chapter presents the summary, conclusions, recommendations and areas for further research.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

5.1 Introduction

The previous chapter presented and analysed the findings on the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe, with the Bindura University of Science Education Innovation Hub as the case study. This chapter presents a summary of the study, the key conclusions drawn from the findings and the recommendations arising from the research objectives. It is grounded in the empirical findings presented in Chapter Four and is linked to the theoretical frameworks discussed in Chapter Two. The chapter also highlights the implications of the study for policy, for practice and for future research on innovation hubs and youth unemployment in Zimbabwe.

5.2 Summary

Chapter One introduced the study and provided the background and context regarding the role of innovation hubs in addressing youth unemployment, with a focus on Bindura University of Science Education. The chapter outlined the statement of the problem, the research objectives, the research questions and the purpose of the study, and emphasised the potential of innovation hubs in addressing youth unemployment.

Chapter Two offered a detailed review of the existing literature on innovation hubs and youth unemployment in Zimbabwe, and particularly at Bindura University of Science Education. The chapter used entrepreneurial leadership theory, the triple helix model and the multi-criteria decision-making framework in order to explore the importance of innovation hubs in addressing youth unemployment.

Chapter Three described the research philosophy, methodology and design. Data collection was conducted through semi-structured interviews and focus group discussions, which were chosen for their ability to open up conversation and to obtain rich insights into participants' views on the effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe. The study used purposive and snowball sampling to select fifteen (15) participants. Ethical considerations were carefully observed throughout the study, and informed consent was secured from all participants. These measures ensured respect and integrity in the research process.

Chapter Four presented, discussed and analysed the data gathered from the field. The findings highlighted the complexity of the effectiveness of innovation hubs in addressing youth unemployment. While the hub serves as a platform through which youths are inspired to learn about entrepreneurship, it also faces challenges that need to be addressed if the potential of innovation hubs to address youth unemployment is to be fully realised.

Chapter Five summarises the main findings of the study, offers recommendations and suggests areas for future research. The study concludes that innovation hubs play a vital role in addressing youth unemployment in Zimbabwe and that they offer valuable opportunities to enhance self-employment and to support collaboration. However, issues such as limited data accessibility, limited geographical scope and possible information bias must be managed. The study further suggests that, if Zimbabwe's innovation ecosystems and SMEs are to contribute to reducing youth unemployment, macroeconomic stability, entrepreneurial opportunities and capacities need to be improved, as does the leadership of those who manage innovation platforms.

5.3 Conclusions

5.3.1 Effectiveness as a capacity-building platform

The BUSE Innovation Hub has functioned effectively as a capacity-building and entrepreneurship development platform, but not as a job creation mechanism. It has been effective in providing skills, knowledge and entrepreneurial attributes to youths, but it has had difficulty in generating sustainable employment outcomes. These findings agree with Etzkowitz and Leydesdorff (2000), whose triple helix model explains that universities can drive innovation and economic development through partnerships with industry and government.

5.3.2 Influence of external factors

The external environment, including the state of the economy, access to finance and connections with industry, plays a key role in determining the effectiveness of the innovation hub. The role of innovation hubs is limited if they do not have an enabling ecosystem around them. Inadequate funding and limited institutional support therefore reduce the effectiveness of innovation hubs in Africa.

5.3.3 Gap between innovation and commercialisation

There is a clear disconnect between innovation and commercialisation. The hub is effective at generating ideas and developing prototypes, but it is weak in the areas of scaling, funding and market access. This agrees with Mwantimwa et al. (2021), who observed that innovation projects remain at the prototype stage because of financial and market constraints.

5.3.4 The need for a multi-dimensional approach

Innovation centres are not, on their own, the solution to youth unemployment. The study concludes that youth unemployment is a multi-dimensional phenomenon that needs to be tackled through the combined efforts of government, industry and educational institutions. It should be addressed through a multi-criteria approach that combines education reform, the promotion of entrepreneurship, institutional support and sectoral development.

5.3.5 A broader measure of effectiveness

The study concludes that the impact of innovation hubs lies not only in the creation of jobs but also in skills development, employability and entrepreneurial capacity. Innovation hubs should therefore be evaluated on their capacity to develop entrepreneurial ability and to create long-term economic opportunities rather than on immediate employment outcomes alone.

5.4 Recommendations

On the basis of the findings of the study, the following recommendations are made in order to improve the effectiveness of innovation hubs in addressing youth unemployment.

5.4.1 Recommendations for Bindura University of Science Education

Funding for innovation hub projects should be increased. Adequate financial support will enable innovators to develop and commercialise their ideas. Mentorship programmes should also be strengthened, so that experienced entrepreneurs and industry experts provide continuous guidance to students and graduates.

5.4.2 Recommendations for government and policymakers

Government, as policymaker, should develop and implement policies that promote youth entrepreneurship and that support university innovation hubs through funding and incentives.

5.4.3 Recommendations for industry

Partnerships between the BUSE Innovation Hub and industry should be established in order to improve access to markets, internships and other opportunities for students and graduates.

5.4.4 Recommendations for youths and students

Students and graduates should actively take part in innovation hub programmes and should make use of the available training, mentorship and networking opportunities in order to build sustainable businesses.

5.5 Areas for further research

5.5.1 Long-term impact on employment creation

Further research is required in order to determine the long-term effects of innovation hubs on job creation. This can be done by tracking the graduates and start-ups of innovation hubs over an extended period in order to determine whether the businesses started through such hubs remain viable and continue to produce jobs.

5.5.2 Comparative studies across universities

Studies involving more than one university in Zimbabwe should be undertaken. These would offer a broader and more contextual picture of the effectiveness of innovation hubs and would help to identify good practices as well as common challenges and success factors.

5.5.3 The role of digital technologies

Further research is required in order to understand how digital technologies can contribute to the impact of innovation hubs and to the sustainability of the ventures that they support.

5.5.4 Sustainable funding models

There are opportunities to examine financing mechanisms such as public–private partnerships and government grants in order to increase the financial sustainability and impact of innovation hubs.

5.5.5 Policy and institutional frameworks

Future studies are needed on the policy and institutional settings that affect the performance of innovation hubs. A review of policy, regulation and industry linkages could help to strengthen the innovation ecosystem and to improve the impact of innovation hubs in Zimbabwe.

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APPENDIX A: RESEARCH INSTRUMENTS

Appendix A1: Semi-structured interview guide

The following semi-structured questions guided the data collection process.

1. What is your role within the BUSE Innovation Hub?
2. What challenges do you experience in the innovation hub?
3. How does the innovation hub support youth entrepreneurship?
4. What types of projects are commonly developed within the hub?
5. To what extent do you think the hub addresses youth unemployment?
6. What improvements would you recommend in order to enhance the effectiveness of the hub?
7. How does the current economic environment affect innovation and start-up development?

APPENDIX B: CONSENT FORM FOR RESEARCH PARTICIPANTS

Title of the study

The effectiveness of innovation hubs in addressing youth unemployment in Zimbabwe: the case study of Bindura University of Science Education.

Introduction

Thank you for considering participation in this research study. This study investigates the effectiveness of the innovation hub in addressing youth unemployment in Zimbabwe, focusing on Bindura University of Science Education. Your participation will contribute to a better understanding of the effects of the innovation hub and of how it may reduce unemployment.

Purpose of the study

The aim of this study is to explore how the Innovation Hub at Bindura University of Science Education is helping to tackle youth unemployment in Zimbabwe. It examines the kinds of innovation project that the hub supports, how it encourages young people to become entrepreneurs, and the challenges it faces in achieving its goals. The study also gathers the views of students and graduates on how effective the hub has been in improving their job prospects. By focusing on Bindura University of Science Education, the research seeks to highlight the potential of university innovation hubs to empower young people and to create meaningful employment opportunities.

Benefits and risks

The benefits of participating in this study include contributing to a better understanding of the role of innovation hubs in reducing unemployment in Zimbabwe. There are minimal risks associated with participation. You may, however, experience some discomfort when discussing sensitive topics related to unemployment.

Confidentiality and data protection

All personal data collected during this study will be kept confidential and stored securely. Your identity will be protected, and all data will be anonymised before analysis. The researcher will ensure that all data are stored in accordance with the applicable data protection requirements.

Right to refuse

You have the right to refuse to participate in this study or to withdraw from the study at any time without penalty. You also have the right to decline to answer any question that makes you feel uncomfortable.

Contact information

If you have any questions or concerns about this study, please contact Abigail Chikuruwo on +263 775 607 208.

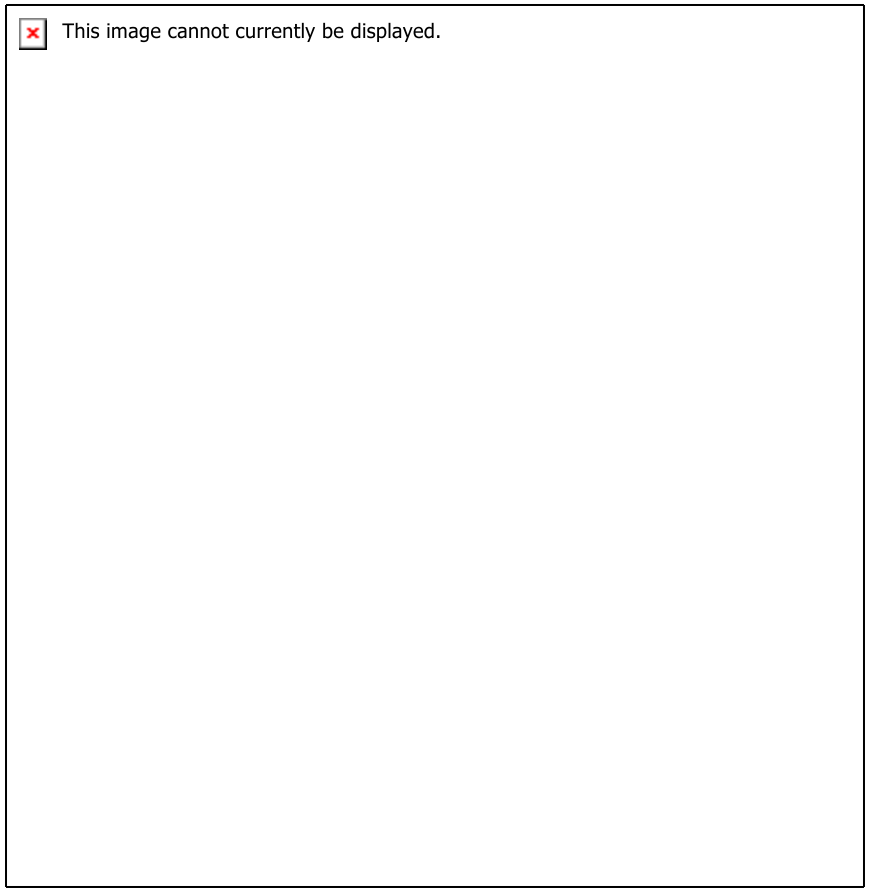
Consent

I hereby consent to participate in this research study. I understand that my participation is voluntary and that I may withdraw at any time without penalty. I also understand that all personal data collected during this study will be kept confidential and stored securely.

Signature of participant: ……

Date: ……

APPENDIX C: LETTER FROM THE DEPARTMENT



APPENDIX D: GATEKEEPER LETTER

