

**DURBAN UNIVERSITY OF TECHNOLOGY**

**THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE  
DEVELOPMENT PROGRAMMES AT THE DURBAN UNIVERSITY OF  
TECHNOLOGY (DUT)**

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**AUGUST 2025**



**THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE DEVELOPMENT PROGRAMMES AT THE DURBAN UNIVERSITY OF TECHNOLOGY (DUT)**

Submitted in fulfilment of the requirements of the degree of **Doctor of Philosophy in Management Sciences** Specialising in ***Business Administration*** in the Faculty of Management Sciences at the Durban University of Technology

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AUGUST 2025

APPROVED FOR FINAL SUBMISSION

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**Date:** 01 August 2025

## ABSTRACT

Entrepreneurship has become a potent force for sustainable development, particularly in areas like South Africa that are facing socioeconomic difficulties. Even though the country's unemployment rate is high, this is regarded as low when compared to other African nations. To encourage youth entrepreneurship, government has embraced this fact and aggressively included laws and policies in its developmental agenda. Since Higher Education Institutions serve as gathering places for young people, it is important to examine their crucial role in fostering young people's entrepreneurial potential. The study aimed to explore the role of youth entrepreneurs in the sustainable development programme at the Durban University of Technology (DUT).

This study employed mixed-method approach. To guide the present inquiry, a positivist research paradigm was adopted, through a quantitative approach and a survey research design. The population targeted for this study were 253 youth entrepreneurs at Durban University of Technology. Within non-probability, simple random sampling was employed. A questionnaire was used to gather the data needed for the study while SPSS version 28 was employed for data analyses. For the qualitative approach, thematic analysis was used. The study involved the use of both primary and secondary research. A review of secondary research materials on youth entrepreneurs and the sustainable development programme was conducted, and semi-structured interviews were used to gather the necessary primary data.

Facts from the findings revealed that DUT students are well-informed about entrepreneurship. They believed that entrepreneurship was an effective way to deal with societal problems. The results of this study proposed that to create sustainable businesses, universities should be at the forefront of creating opportunities and pathways for encouraging entrepreneurial qualities.

**Keywords:** Programmes, entrepreneurship, economic, sustainable development, and innovation

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## DEDICATION

I dedicate this study to my mom; **Mrs Theresa M Ngwane**. She taught me to persevere and prepared me to face the challenges with faith and humility. Her support gave me the strength to strive and achieve my goals in life.

To my boys **Andile** and **Zendalo**, you are the light of my life, the reason why I persisted.

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I also dedicate it to my siblings, **Fisani, Mfundo, Busani, Xolani, Sthembiso, Sandile, Lungile, Hlengiwe and Somto**. I love you all.

## DECLARATION

I, the undersigned declare that:

**THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE DEVELOPMENT PROGRAMMES AT THE DURBAN UNIVERSITY OF TECHNOLOGY (DUT)** is my original work, that all sources used or quoted have been acknowledged in the list of references, and this dissertation was not previously submitted for a degree at any institution of higher learning.

**Candidate Name: Mary-ann Nokulunga Nhleko**

Signature: \_\_\_\_\_

Date: 01 August 2025

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## LIST OF ACRONYMS AND ABBREVIATIONS

BER	Bureau for Economic Research
DUT	Durban University of Technology
DFIs	Development Finance Institutions
DTI	Department of Trade Industry
EE	Entrepreneurship Education
EO	Entrepreneurial Intention
EO	Entrepreneurial Orientation
ENE	Estimates of National Expenditure
EMS	Economic Management Sciences
FREC	Faculty Research Ethics Committee
GEM	Global Entrepreneurship Monitoring
GDP	Gross Domestic Product
GEP	Gauteng Enterprise Propeller
IDC	Industrial Development Corporation
MDGs	Millennium Development Goals
NASA	National Aeronautics and Space Administration
NCEE	National Centre for Entrepreneurship in Education
NEF	National Empowerment Fund
NFTE	Network for Teaching Entrepreneurship
NYDA	National Youth Development Agency
SA	South Africa
SAMAF	South African Micro Finance Apex Fund
SEDA	Small Enterprise Development Agency
SEFA	Small Enterprise Financial Agency
SMMEs	Small Medium and Micro Enterprises

SMEs	Small Medium Enterprises
SPSS	Statistical Package for Social Sciences
TEA	Total Early-Stage Entrepreneurial Activity
UBI	University Business Incubators
USA	United Southern America

# CHAPTER ONE: ORIENTATION AND OVERVIEW OF THE STUDY

## 1.1 Introduction

Positive entrepreneurial support has the potential to transform the entrepreneurial spirit, attitudes, and perceptions within youth communities, with a specific focus on the Durban University of Technology (DUT). Entrepreneurship and innovation play a crucial role in global economic development (Nassoura and Hassan 2021). Recognising the youth's role in regional job creation is essential for local and regional economic development agencies, marking a shift in economic development paradigms (Dzomonda and Fatoki 2019). The term "innovation" has gained prominence worldwide, leading to increased support for entrepreneurship and youth initiatives (Danielle and Masilela 2020).

Youth entrepreneurs are recognised as key drivers for employment creation, economic growth, and the diversification of economies, including in South Africa (Bobek, Schachl and Horvat 2023). This study aims to explore how student entrepreneurs at DUT can initiate actions to instill business etiquette in their operational management, contributing to sustainable development. With high levels of unemployment in South Africa, the growth of small businesses is crucial for creating sustainable employment opportunities and economic diversification.

Measuring youth entrepreneurial mindsets and non-cognitive skills poses challenges, but they are essential for addressing unemployment issues (Liu, Kuhfeld and Lee 2025). South Africa's dependence on youth entrepreneurs to alleviate poverty and create self-employment opportunities highlights the significance of fostering entrepreneurial skills (Ndlovu and Lefera 2024). The study aims to explore the role of youth entrepreneurs in the Sustainable Development Programmes at DUT, utilizing a mixed-method approach.

## 1.2 Literature Supporting problem statement

A key engine of economic development, employment creation, poverty reduction, and human welfare enhancement is entrepreneurship. Entrepreneurship and economic development's interdependence seek to meet like objectives inside the current economic environment (Molefe, Meyer and de Jongh 2018). Emphasising the value of youth entrepreneurship in South Africa, the Global Entrepreneurship Monitor (GEM) study links 0.9% of all entrepreneurial activity to young people (Ndofirepi and Steyn 2023). A major obstacle therefore exists: youth entrepreneurs lack the required knowledge and expertise (Ndlovu and Lefera 2024). Youth entrepreneurs participating in the Durban University of Technology's (DUT) sustainable development programmes have become especially important as they negotiate these obstacles and help to further general society objectives.

Especially in developing countries, entrepreneurship is essential for generating economic growth. It goes beyond starting fresh businesses to encompass value addition and support of existing businesses (Gangiah 2024). In this sense, an entrepreneurial attitude can help employees of current companies as well as aspirant entrepreneurs. As the study emphasises, South Africa shows less entrepreneurial activity despite this more general definition than other developing countries. Township economies, which provide vital livelihood possibilities for millions of South Africans are often characterised by challenges such as high unemployment, skills shortages, and urban-rural poverty, highlighting this discrepancy (van Berkum 2023).

Promoting sustainable economic development according to Zafar, Khan and Khan (2022) requires addressing these obstacles. Underlining the need to tackle poverty, hunger, health, education, climate change, and forest protection, the Sustainable Development Goals (SDGs) also highlight Globally, youth entrepreneurship development is crucial especially considering the high rates of youth unemployment and calls for sensible solutions to handle this urgent problem.

Entrepreneurship advances social welfare, competitiveness, job creation, and economic development (Soomro and Shah 2022). Focusing on areas with strong entrepreneurial activity, such those encouraged at DUT, will help to importantly address high unemployment issues and so match several SDGs, especially Goal 8, which seek to support continuous, inclusive economic growth, full and productive employment.

DUT is among the universities that greatly help students to develop entrepreneurial traits and inclinations, therefore promoting economic growth and employment creation (Rouf and Siddique 2023). Universities encourage an entrepreneurial climate by means of their centres for new venture formation, therefore arming students with the knowledge and tools required for entrepreneurship (Manyaga, Goldman and Thomas 2024). According to Pennetta, Anglani and Mathews (2024), the vibrant entrepreneurship depends on a supporting environment including social, political, and economic aspects. Financial resources, educational and skill development programmes, market prospects, government support, and infrastructure all of which are fundamental components of this ecosystem (Poli 2024). Manyaga, Goldman and Thomas (2024) note that in township economies, this ecosystem generally lacks growth in South Africa, which presents important obstacles for youth entrepreneurs including limited access to financial resources, inadequate skills, and institutional support deficiency.

A well-coordinated effort targeted at improving the entrepreneurial climate with an eye towards historically underprivileged areas is essential to solve these shortcomings (Wang 2025). This strategy not only fits the SDGs but also highlights how transforming youth entrepreneurship can be in reaching sustainable development. Through active participation of youth in entrepreneurial endeavours, DUT may help to create inclusive economic possibilities that reduce poverty and promote community growth.

All things considered, the way that DUT's sustainable development framework incorporates entrepreneurship shows how much educational institutions may affect

socioeconomic change. Universities can help close the gap between education and practical application by arming youth entrepreneurs with the required skills and support, therefore producing a generation of business leaders ready to meet the urgent issues South Africa faces. By means of strategic alignment with the SDGs, DUT's emphasis on youth entrepreneurship not only aims to promote personal development but also supports the larger goal of regional sustainable development. DUT is positioned as a major actor in the push towards a more fair and rich society by this synergy of education, entrepreneurship, and sustainable development.

### **1.3 Rationale for the Study**

DUT, as one of South Africa's largest universities, is strategically positioned to make a substantial contribution to youth entrepreneurship. Supporting both young and experienced entrepreneurs is much aided by the DUT Centre for Entrepreneurship and Innovation. This centre creates a favourable environment for young people to investigate entrepreneurial activities through resources, mentoring, and networking opportunities. The urgent global high unemployment rates along with government initiatives aimed at empowering young people highlight the need to arm young people with the necessary information and skills for sustainable living through entrepreneurship (Giwa and Babakatun 2019). Nurturing a generation of inventors and job creators who can help to drive social and economic progress depends on this focus on entrepreneurial education.

With nations including United States of America, China, the United Kingdom, South Africa, and Nigeria realising its critical contribution to economic growth, entrepreneurship is clearly a worldwide phenomenon (Olutuase, Brijlal and Yan 2023). Acknowledged as major drivers of economic development drivers, SMMEs help to drastically lower poverty rates and generally boost GDP globally (Manning and Vavilov 2023). Many projects have been started at DUT to help students create ideas that might result in new companies and employment possibilities. DUT wants to enable students to find market gaps and create solutions that meet community needs by stressing entrepreneurial education and practical training, thereby promoting local economic development.

Particularly among DUT's entrepreneurial students, improving entrepreneurship education is essential for job creation and poverty reduction in South Africa (Nhleko, Msomi and Ogunsola 2023; Lajçi, Berisha and Krasniqi 2024). Together with practical experience and mentoring, a strong entrepreneurship course may provide students with the tools they need to negotiate the challenges of launching and running a company. There is a need to appreciate the development of such opportunities and their major influence on entrepreneurial activities with youth entrepreneurs. Conducting this study will enable young entrepreneurs to formulate creative ideas that support sustainable development and boost local resources, therefore fostering economic progress.

Finally, DUT's dedication to developing youth entrepreneurship not only aims to help to solve poverty and unemployment but also fits more general economic objectives. DUT can enable young people to be proactive change agents in their communities by encouraging an entrepreneurial attitude and supplying the required support structures. This deliberate emphasis on entrepreneurship will not only help individual success but also improve the general economic resilience of the area, therefore establishing DUT as a major actor in the change of the entrepreneurial scene of South Africa. DUT can build a dynamic environment supporting sustainable development for the next generations by matching educational efforts with the ambitions of young people and the needs of the local economy.

#### **1.4 Relevance of Research Area**

Entrepreneurial goals are influenced by a number of elements, such as financial resources, personal obstacles, entrepreneurial education (Ahmed and El-Sabry 2024). Exploring the difficulties encountered by youth entrepreneurs when forming and running a business is essential. They can find answers if they are aware of the difficulties they encounter. Additionally, it will enable those who aspire to establish their own business to be aware of the challenges they may encounter. Furthermore, this study is important because it will permit a clear understanding of the difficulties faced by youth entrepreneurs, which other academics may utilise. In addition, government or other

organisation that is interested in supporting and encouraging entrepreneurs may find it very helpful to understand the problems that entrepreneurs encounter and the solutions that this work suggests.

### **1.5 Research Problem**

Entrepreneurship is increasingly recognized as a vital engine for job creation, economic growth, and poverty alleviation, particularly in developing nations like South Africa (Enaifoghe and Vezi-Magigaba 2022). Despite its potential, the country continues to exhibit lower levels of entrepreneurial activities compared to its counterparts in the Global South (Jena 2020). This disparity is particularly pronounced among the youth, where the lack of entrepreneurial engagement importantly hinders broader economic development and exacerbates existing socio-economic challenges. A pervasive culture of entrepreneurship among youth could be a key strategy for addressing these issues, yet many face barriers that limit their ability to start and sustain viable businesses (Anning-Dorson 2021).

Youth entrepreneurship in South Africa is importantly hampered by a range of socio-economic challenges, including high unemployment rates, limited access to education and skills development, and pervasive poverty (Munyuki and Jonah 2022). Many youths engaged in entrepreneurship, particularly in informal township settings, struggle with inadequate access to financial resources, insufficient mentorship, and a lack of institutional support that could foster their business ventures (Cieslik, Barford and Vira 2022). These barriers are compounded by historical inequities, including the legacy of apartheid, which continues to marginalize many youths, especially Black South Africans from full economic participation and access to entrepreneurial opportunities (Haegele, Iacobuță and Tops 2022).

Furthermore, while governmental and non-governmental initiatives have emerged to promote youth entrepreneurship, the effectiveness of these programmes remains in question. Current educational frameworks and development initiatives frequently fail to equip youth entrepreneurs with the necessary skills, knowledge, and resources needed

to thrive in an increasingly competitive and dynamic global market (Aithal and Aithal 2023). This gap between the potential of youth entrepreneurs and their actual contributions to economic growth suggests that the transformative power of youth entrepreneurship is not being fully realized, undermining efforts toward sustainable economic development (Wasik, Sangadji and Iswanto 2023). In light of these challenges, it is critical to cultivate an entrepreneurial mindset among youth as a means to overcome socio-economic barriers such as unemployment and poverty. The promotion of entrepreneurial attitudes and skills can provide youth with the tools necessary to navigate the complexities of the modern economy, ultimately contributing to more sustainable development outcomes (Ghouse, Barber III and Alipour 2024).

The operational hurdles that young entrepreneurs confront will be evaluated, as well as how well the present entrepreneurship development programs are working to remove these barriers. Understanding these factors will help this study provide important insights into how DUT and other educational institutions may support youth entrepreneurship as a means of achieving sustainable economic development in South Africa.

## **1.6 Aim of the study**

This study aims to explore the role of youth entrepreneurs in the Sustainable Development Programme at the Durban University of Technology (DUT).

### **1.6.1 Research Objectives**

The objectives of the study are as follows:

- ❖ To examine the role of youth entrepreneurs in the sustainable development programme at DUT.
- ❖ To identify the determinants to the success of youth entrepreneurs at DUT.

- ❖ To analyse the factors affecting youth entrepreneurs at DUT.
- ❖ To determine the role of DUT education in promoting youth entrepreneurship.
- ❖ To recommend intervention strategies that can be employed to enhance youth entrepreneurship at DUT.

### **1.6.2 Research questions**

The research questions of the study were as follows:

- ❖ What is the role of youth entrepreneurs in the sustainable development programme at DUT?
- ❖ What are the detriments to the success of youth entrepreneurs at DUT?
- ❖ What are the factors affecting youth entrepreneurs at DUT?
- ❖ What is the role of DUT education in promoting youth entrepreneurship?
- ❖ What are the recommended intervention strategies that can be employed to enhance youth entrepreneurship at DUT?

### **1.7 Delimitations**

Creswell and Creswell (2017) define delimitations as the decisions that the researchers make that may affect the study's outcome and that must be disclosed in the study. They illustrate the limitations placed on the study that are under the researcher's control, establishing limits to ensure that the goals of the investigation are not unreachable.

Delimitations therefore aim to restrict a study's scope. For instance, the study's variables, sample size, context or location, and respondent demographic are all examples.

The following delimitations apply to this research:

- i This study reviews the literature on the two constructs under study, namely youth entrepreneurship and sustainable development programmes
- ii. A sample size of 253 was employed to enable a fair assessment of the constructs under study.
- iii This study was conducted at the Durban University of Technology in KZN province in SA.

## **1.8 Limitations of the study**

As a result of financial constraints, only the Durban University of Technology Youth Entrepreneurs were concentrated on. This might prevent the generalization of the findings.

## **1.9 Structure of the thesis**

Chapter One provides an introductory overview of the study. It also encompasses the definitions of the research theme, research problem, aim, and objectives as well as the summary of the methodology for the study.

Chapter Two reviews the constructs of the study by providing a comprehensive look at past research studies conducted on Entrepreneurship.

Chapter Three reviews the literature of past research studies conducted in the Sustainable Development Programme. Also, it discusses sustainable development under three major groupings, which are economic, social and environmental factors impacting how entrepreneurs can correlate managerial competency to enhance sustainable development.

Chapter Four outlines the research methodology used to carry out this study. It will also discuss research design, mixed-method approach, population and sampling method for the study. It further entails data collection methods, data analysis, pretesting, limitations, and ethical considerations.

Chapter Five presents, interprets and discusses the findings obtained during the fieldwork.

Chapter Six covers the conclusions and recommendations of the study.

## **1.10 Conclusion**

This chapter outlined the background of the study, literature supporting problem statement, and research aim and objectives, delimitations and limitations. The plan of the chapters was also presented. In the following chapter, the literature review will be covered regarding research studies conducted on Entrepreneurship.

The next chapter reviews scholarly work on youth entrepreneurship in the sustainable development programme.

## CHAPTER TWO: CONCEPTUALISING ENTREPRENEURSHIP

### 2.1 Introduction

The pressing need for sustainable living is increasingly recognized in the context of contemporary civilization and environmental challenges, particularly concerning poverty alleviation. As Anning-Dorson (2021) underline, quick action is crucial to solve environmental problems and guarantee sufficient living circumstances, particularly in underdeveloped areas like South Africa. In this respect, governments globally are progressively employing SMMEs as a strategic tool to solve these issues and promote economic development. A focal focus of sustainable development projects, SMMEs are not only essential for economic growth but also importantly help to lower poverty and unemployment among the youth.

Driven by worldwide recessions and slow development, the economic downturn in South Africa has produced a notable job gap (Valensisi 2020). The lack of local businesses aggravates this disparity; Fasih, Haimoun and Kassem (2020) note that this is a major obstacle to reducing high unemployment rates. Particularly noticeable is youth unemployment since young people have few chances to participate in business activity. The possibility for SMME expansion presents a road towards employment; nevertheless, the lack of knowledge and support among youth entrepreneurs compromises local business sustainability (Mensah 2024).

Especially in tackling unemployment issues encountered by youth, the research underlines how SMMEs can be tools for economic development and poverty reduction (Rudman and Aldrich 2021). Notwithstanding their obvious importance, ongoing poverty and unemployment point to the need for more work to empower young people and redefine societal institutions through professional involvement (Anggendari and Nurhasanah 2023).

Thus, a healthy national economy depends on the development of entrepreneurial abilities and the encouragement of young entrepreneurship as important elements.

As Califf, Sarker and Sarker (2020) points out, youth entrepreneurs play a key role in sustainably underpinning South Africa's economic development. In this sense, the Durban University of Technology (DUT) can be rather important since it encourages students with an entrepreneurial attitude. DUT can help to create a strong ecosystem supporting the expansion of SMEs by arming young people with the knowledge, tools, and resources required for successful entrepreneurship. This will not only give the youth quick financial possibilities but also fit more general sustainable development objectives meant to reduce poverty and raise living standards.

This chapter explores the substantial influence of youth entrepreneurs on economic development, examining the elements that constitute youth entrepreneurs through relevant theories. On this basis, this chapter will examine the important influence of youth entrepreneurs on economic development. Also, to unpack the elements that make up the youth entrepreneurs, the theories that underpin the review of the study will be examined in the section below.

## **2.2 The Entrepreneurial Ecosystem Theory**

The entrepreneurial ecosystem theory has emerged as an important paradigm for comprehending the factors that promote entrepreneurial activity (Carlsen and Bruggemann 2022). The entrepreneurial environment has an important impact on the possibilities and obstacles that youth entrepreneurs encounter, especially in the realm of youth entrepreneurship. The notion as stated by Purbasari, Wijaya and Rahayu (2020) suggest that entrepreneurship is not entirely determined by individual activities but is importantly impacted by the larger context in which it exists. This ecosystem comprises a combination of cultural, economic, social, and institutional factors that combine to either facilitate or impede entrepreneurial achievement (Purbasari, Muhyi and Sukoco 2020). When considering youth entrepreneurship and sustainable development, it is crucial to comprehend the intricacies of this ecosystem. Youth entrepreneurs frequently

encounter distinct problems and possibilities that are different from those experienced by older entrepreneurs. This debate will examine the Entrepreneurial Ecosystem Theory and its impact on youth entrepreneurship, specifically concerning the Sustainable Development Goals (SDGs).

The Entrepreneurial Ecosystem Theory highlights the importance of conducive settings that offer supportive resources, networks, and institutional frameworks for the growth of entrepreneurship. Wurth, Stam and Spigel (2022) posit entrepreneurial ecosystem as a dynamic and interconnected system consisting of several players and elements. These components work together to provide a favourable climate for entrepreneurship. The essential elements of this ecosystem are financial accessibility, educational opportunities, governmental regulations, infrastructure, cultural perspectives, and social networks that contribute to social capital (Wurth, Stam and Spigel 2022).

Within the realm of adolescent entrepreneurship, these elements assume a heightened significance owing to the supplementary obstacles that youth entrepreneurs frequently encounter, including insufficient expertise, constrained financial resources, and diminished social connections (Seikkula-Leino and Salomaa 2021). Entrepreneurial ecosystem as explained by Theodoraki, Dana and Caputo (2022) offer the essential framework for overcoming these obstacles by enabling youth entrepreneurs to access resources, mentoring, and networks that they may otherwise be without. For example, the availability of finance sources like venture capital or government grants may help reduce financial limitations, while educational institutions can offer the essential expertise and understanding to negotiate the intricacies of entrepreneurship (Fanjul, Herrera and Munoz-Doyague 2023).

An examination of the relationship between youth entrepreneurship and the entrepreneurial ecosystem, focusing on the differences and similarities between the two. The Entrepreneurial Ecosystem Theory is applicable to entrepreneurs of all age groups; however, it needs modification when dealing with juvenile entrepreneurship (Moggi, Pierce and Bernardi 2022).

Although all entrepreneurs derive advantages from having access to financial resources, education, and professional networks, youth entrepreneurs meet certain obstacles that may not be experienced by older entrepreneurs. These hurdles include age discrimination and the potential credibility deficit resulting from their limited experience (Juma, Olabisi and Griffin-EL 2023). In addition, youth entrepreneurs sometimes have restricted access to well-established networks, which are essential for acquiring mentoring, receiving capital, and entering the market. One important difference is that mature entrepreneurs are more likely to have large networks and previous expertise in dealing with business situations (Nhleko, Msomi and Ogunsola 2023).

Nevertheless, the similarities between young and adult entrepreneurs also emphasise the presence of some ecosystem features that are applicable to all. Both groups derive advantages from favourable government policies, such as tax incentives and regulatory frameworks that lower obstacles to market participation. Furthermore, the availability of technology infrastructure, especially in digital marketplaces, can create a fair and equal opportunity for new entrepreneurs to compete with well-established enterprises (Anggendari and Nurhasanah 2023).

Youth entrepreneurs also exhibit proficiency in flexibility and invention, frequently succeeding in utilising digital tools and platforms to establish groundbreaking company models (Mahmudin 2023). The proficiency in technology, together with the interconnectedness of the worldwide market, presents younger entrepreneurs with distinct prospects that were inaccessible to earlier generations. Therefore, the ecosystem that facilitates young entrepreneurship should prioritise the availability of digital infrastructure, online education, and worldwide networks. This sets it apart from ecosystems that are primarily meant to serve older, more conventional entrepreneurs (Da Silva and Núñez Reyes 2022).

### **2.2.1 The intersection of the entrepreneurial ecosystem with the Sustainable Development Goals (SDGs)**

Youth entrepreneurs are increasingly acknowledged as vital contributors to the

attainment of the Sustainable Development Goals (SDGs), notably in domains such as reducing poverty, fostering economic development, and driving innovation. The SDGs prioritise equitable and sustainable economic growth, which is in line with the role of the entrepreneurial ecosystem in promoting youth entrepreneurship as a way to advance progress in these domains (Bărbulescu, Nicolau and Munteanu 2021). For example, youth entrepreneurs in emerging nations have the capacity to provide employment opportunities and foster economic vitality, therefore making a valuable contribution to SDG 8 (Decent Work and Economic Growth) (Mustafa and Suparwata 2024).

A resilient entrepreneurial environment that facilitates youth entrepreneurs is crucial for aligning with SDGs. These ecosystems offer essential resources and structures for young entrepreneurs to create innovative solutions that promote sustainability. For instance, entrepreneurial ecosystems that give priority to green innovation and circular economies motivate youth entrepreneurs to establish enterprises that not only prosper financially but also have a positive impact on environmental sustainability (Pizzi, Leopizzi and Caputo 2022).

### **2.2.2 Obstacles in Constructing Entrepreneurial Ecosystems for Young People**

Although there are potential advantages, establishing business ecosystems that comprehensively facilitate youth entrepreneurship presents considerable obstacles. An important problem is the absence of focused policies that cater to the special requirements of youth entrepreneurs. Government policies on entrepreneurship sometimes fail to consider the specific challenges encountered by young people, such as low financial resources, a lack of mentorship possibilities, and the absence of specialised educational programmes (Guerrero, Liñán and Cáceres-Carrasco 2021). In addition, most ecosystems do not possess the necessary infrastructure to accommodate enterprises operating in non-conventional sectors, such as the gig economy or social entrepreneurship, which are particularly favoured by youth entrepreneurs.

In emerging economies, these difficulties are worsened by inadequate institutional structures, corruption, and limited availability of essential infrastructure, such as

dependable internet connectivity and transportation networks (Torres and Godinho 2022). Consequently, youth entrepreneurship in these areas frequently remains restricted to informal industries, so restricting their ability to contribute to long-lasting economic growth.

In addition, although entrepreneurial ecosystems are crucial for promoting innovation, they are nonetheless susceptible to the difficulties presented by global economic instability. The COVID-19 pandemic had an important impact on ecosystems globally, particularly hitting youth entrepreneurs who faced greater challenges due to their limited resources and networks to withstand the economic downturn (Gebremichael, Gebreslassie and Mezgebe 2023). These interruptions have emphasised the necessity for entrepreneurial ecosystems that are more robust and flexible, capable of assisting young entrepreneurs during times of crisis.

### **2.2.3 The significance of universities and education in the entrepreneurial ecosystem**

Universities and educational institutions play a crucial role in entrepreneurial ecosystems, especially when it comes to youth entrepreneurship. Educational institutions have a double purpose by providing students with essential skills and serving as centres for innovation and entrepreneurial endeavours (Bauman and Lucy 2021). Universities may offer mentorship programmes, incubation centres, and venture capital networks, which are essential elements of a successful entrepreneurial ecosystem.

In the context of sustainable development, universities have a unique responsibility to integrate sustainability into their entrepreneurship programmes, ensuring that youth entrepreneurs are not only focused on economic growth but also on contributing to social and environmental well-being (Audretsch and Belitski 2021). This is consistent with the objectives of the Sustainable Development Goals (SDGs), which prioritise the importance of promoting inclusive and sustainable entrepreneurship.

The Entrepreneurial Ecosystem Theory offers a comprehensive framework for comprehending the circumstances that promote youth entrepreneurship, specifically in

connection with the Sustainable Development Goals. The approach emphasises the significance of a conducive environment that encompasses the availability of financial resources, educational opportunities, social connections, and governmental regulations. Although adolescent and adult entrepreneurs share certain commonalities within the ecosystem, youth entrepreneurs confront distinct hurdles that need focused solutions. These constraints include inadequate experience and social capital (Korber, Swail and Krishanasamy 2022). To facilitate the efforts of youth entrepreneurs in sustainable development, it is crucial to provide them with ecosystems that are flexible, robust, and promote inclusivity. By cultivating these ecosystems, we can more effectively utilise the potential of young entrepreneurs to stimulate economic growth, alleviate poverty, and support sustainable development.

### **2.3 Youth Entrepreneurship**

Entrepreneurship represents a multifaceted concept, embodying individuals who conceive, organize, manage, and undertake the risks associated with a business venture (Korber, Swail and Krishanasamy 2022). It is characterised by a belief in value creation, the ability to identify opportunities, and the capacity to nurture these opportunities into unique business ventures. Entrepreneurs display advanced skills in planning, organizing, directing, and controlling while embracing the inherent risks involved (Kumar 2023). Consequently, an entrepreneur is defined as someone with the initiative, skill, and motivation to establish and manage a business, with high expectations for success and achievements (Lee 2023).

Ogunsola, Potwana and Chikosha (2023) articulate that entrepreneurship is a process involving the conceptualization, organization, launch, and innovation-driven nurturing of a business opportunity within a complex and unstable environment. This characterization underscores the need for extraordinary skills, especially among youth entrepreneurs, to navigate the myriad challenges associated with starting and sustaining a business. Youth entrepreneurs must develop resilience and adaptability to respond to shifting market demands, economic fluctuations, and technological advancements.

Nwachukwu and Osita-Njoku (2024) categorises youth entrepreneurship into three stages: pre-entrepreneurs (ages 15-19), budding entrepreneurs (ages 20-25), and emergent entrepreneurs (ages 26-29). This classification implies that each stage corresponds to varying levels of experience, maturity, and readiness to establish viable businesses. Young individuals in the later stages are more likely to have the necessary skills and knowledge to succeed, while those in the earlier stages may require additional support and resources to develop their entrepreneurial aspirations.

In South Africa, where most of the population comprises young people Mkhize, van der Westhuizen and Sorsdahl (2024), youth entrepreneurship levels have historically been low. This phenomenon can be attributed to various socio-economic conditions, including high unemployment rates, limited access to education and training, and inadequate financial resources. The prevailing situation often forces young individuals to prioritise employment over entrepreneurship, resulting in a workforce that is less engaged in creating economic opportunities. Despite policy attention and various interventions aimed at fostering youth entrepreneurship, unemployment rates remain persistently high, indicating a chronic challenge that demands urgent action (Mkhize, van der Westhuizen and Sorsdahl 2024).

The poor economic empowerment according to Abdullah (2024), of the youth is symptomatic of a broader systemic issue, reflected in the inconsistent budget allocation and reporting by government departments and agencies tasked with driving enterprise development. There is a pressing need for government and private sectors to collaborate in addressing the unique challenges faced by youth entrepreneurs in South Africa. This can be achieved by implementing comprehensive strategies that encompass skills training, access to finance, and mentorship programmes tailored to the specific needs of youth entrepreneurs.

To foster sustainable youth entrepreneurship development, it is essential to understand the socio-economic factors that contribute to the existing challenges (Eze, Chikeleze and Okwueze 2024). For example, lack of access to quality education, coupled with inadequate support systems, inhibit the entrepreneurial potential of youth (Singh and

Singh 2024). Additionally, societal perceptions of entrepreneurship as a viable career path play a crucial role in shaping the aspirations of the youth. Hence, targeted interventions should not only focus on developing entrepreneurial skills but also aim to shift societal attitudes towards entrepreneurship, emphasizing its potential as a legitimate and rewarding career option.

Tam, Asamoah and Chan (2021) outline several compelling reasons for promoting youth entrepreneurship, emphasizing its crucial role in fostering employment opportunities not only for self-employed youth but also for others they may hire. Entrepreneurship helps to reintegrate alienated and underprivileged young people into the economic mainstream by opening paths for economic engagement, so giving them a sense of purpose and belonging (Tam, Asamoah and Chan 2021). Promoting youth entrepreneurship also acts as an initiative-taking way to solve sociopsychological problems and delinquency resulting from unemployment. Participating in entrepreneurial activities gives youth fresh knowledge and abilities that will help them in many spheres of life, therefore improving both their personal and professional development (Tam, Asamoah and Chan 2021).

Melak and Derso (2023) assert that entrepreneurship fosters resilience and creativity qualities crucial in the always shifting economic environment of today. Youth entrepreneurs can help to revive nearby towns and promote a feeling of togetherness by means of their offering of worthwhile goods and services (Melak and Derso 2023). Furthermore, the agility of youth entrepreneurs helps them to react skillfully to new economic prospects and trends, therefore strengthening their chances for success. Programmes meant to help the youth become entrepreneurs have been launched to maximise these advantages; one such strategy was developed by (Melak and Derso 2023). These programmes not only offer necessary tools and training but also seek to build an environment that supports young people to investigate entrepreneurship as a feasible career route (Melak and Derso 2023).

Such initiatives are meant to provide youth with the tools and assistance they need to negotiate the difficulties of launching and running a business by concentrating on

developing a culture of creativity and entrepreneurship (Medun and Bello 2024). By tackling high unemployment rates, encouraging economic growth, and helping to generalise the development of communities all throughout South Africa, this coordinated effort by government to support youth entrepreneurship may change the economic scene of the country (Lekutle, Ebewo and Shambare 2023). It is impossible to overestimate the important part youth entrepreneurs play in advancing socioeconomic levels since their contributions go beyond simple job creation to include community revitalising and resilience-building (Muchemwa and Odimegwu 2024).

### **2.3.1 Characteristics of Youth Entrepreneurship**

Entrepreneurs operate in multifaceted roles, often acting as investors, marketers, and salespeople, which requires a unique set of personal traits essential for navigating the complexities of business. Emphasising the need for a strong personal basis, underlines that knowledge, abilities, and attitudes are basic traits for entrepreneurs. These realisations show how much the qualities of an entrepreneur affect their capacity to run profitable businesses.

Agbim (2019) also supports the idea of interaction between an entrepreneur's personal qualities and business results since their emotions and traits directly affect company objectives. In the study conducted by Agbim (2019) on the effects of entrepreneurial traits such as creativity, risk-taking, and tolerance for ambiguity on the innovativeness of businesses, highlighting important relationships that underline the need for personal traits in supporting organisational creativity and innovation. With an eye toward the psychological profile of entrepreneurs, Ng, Kee and Ramayah (2020) developed a framework including important elements such innovativeness, risk-taking tendency, internal locus of control, and self-efficacy. Bessonova and Battalov (2020) have added to this by noting additional crucial qualities like social intelligence and tolerance of uncertainty that support effective entrepreneurial activity.

Understanding entrepreneurial behaviour revolves mostly around risk-taking. Malerba and McKelvey (2020) study highlights how personality features affect the management

and view of company risks. Their studies show that people who have great confidence in their ability to control financial risks often find remarkable success in starting businesses, therefore supporting the idea that risk-taking is a unique quality of entrepreneurs. Another vital quality is creativity which is, the capacity to turn fresh ideas into profitable businesses that fits Schumpeter's view of entrepreneurship (Kaya, Yiğit and Doğruak 2021). Rizvi and Nabi (2021) underline the value of innovative and enterprising people in the entrepreneurial ecosystem, thereby supporting this quality.

Furthermore, entrepreneurs need to increase their capacity for problem-solving and decision-making. According to Lidman (2023), entrepreneurs often mix analytical thinking with creative thinking to find market prospects; they classify decision-making processes into causal and effectuating approaches. Entrepreneurship is a teachable ability, according to Hohlova (2024), stressing the need for will, knowledge, and abilities people may learn and hone through experience. With their capacity to reproduce this value, successful entrepreneurs actively seek chances, innovate, and generate value a perspective that fits the idea of how active seekers of possibilities are.

The success of entrepreneurs is intimately related to a unique set of personal qualities that distinguishes them from the rest of society. Essential elements that support entrepreneurial development are emotional resilience, risk-taking inclination, inventiveness, good decision-making capacity, and conviction in the teachability of entrepreneurial skills. Advancement of academic research and useful applications in entrepreneurship depends on developing these qualities.

## **2.4 Business Formation**

The most recent GEM study, the 2013 Global Report, discloses that communities in Latin America and the Caribbean express an important intention to participate in entrepreneurial events, with 32.5% of the working populace (aged 18-64) anticipating engaging in entrepreneurial activities. Entrepreneurship is identified as a vital catalyst for impartial economic development, holding substantial potential as a generator of

employment opportunities (Liang 2022). According to Afolayan and De la Harpe (2020), fostering a culture of innovative insight among youths has become a focal point for governments and societies across the globe.

Human capital is acknowledged by Al-Hattami (2022) as a crucial determinant of an individual's likelihood of engaging in self-employment. It denotes aggregate skills, knowledge, and experiences that individuals possess, augmenting their capacity to contribute to economic activity. Elevated educational attainment correlates with heightened self-employment rates, as people possessing advanced degrees typically have access to resources and networks that promote entrepreneurial endeavours. Professionals in sectors like medicine and law often choose self-employment, motivated by the characteristics of their industries that favour autonomous practice. The educational process imparts fundamental skills, including writing, critical thinking, and managerial competencies, crucial for efficiently initiating and managing a firm (Al-Hattami 2022).

Empirical research indicates that people who display more evidence of human capital are more likely to achieve success as entrepreneurs than those who show lesser human capital. Sanjaya and Kurniawan (2023) assert that this association is not incidental; instead, it signifies the advantages educated individuals evidence in maneuvering the intricacies of entrepreneurship. Moreover, elevated human capital levels improve entrepreneurial results by promoting innovation and adaptation, essential for business success in competitive marketplaces (Sahoo and Goswami 2023). Moreover, self-employed individuals report greater job satisfaction compared to those in conventional employment. This increased satisfaction can be ascribed to enhanced autonomy, the capacity to pursue individual passions, and the fulfilment gained from effectively managing a firm (Gashi Nulleshi 2024). The correlation between human capital and self-employment underscores the significance of education and skill acquisition in promoting entrepreneurial achievement and improving job satisfaction.

## 2.5 Entrepreneurial Education

Entrepreneurial education is advocated as a crucial driver for economic development and job creation (Anwar and Shah 2021). It is also recognised as a response to the increasingly globalized, uncertain, and complex world, necessitating individuals and organisations to be equipped with entrepreneurial competencies (Newman, Fast and Harmon 2020). In South Africa, entrepreneurial education is integrated into secondary schools through subjects like Economic Management Sciences (EMS) and Business Studies (Al Lawati and Hussainey 2021). This inclusion aims to motivate young students to study entrepreneurship, emphasising the shift towards becoming creators of employment rather than merely seeking stable forms of income. Given the rising number of youth entrepreneurs starting their businesses, entrepreneurial education is considered key to addressing the challenges of a highly competitive, fast-paced environment (Cuandra and Tan 2021). Most learners make professional decisions during their advanced education, making this stage pivotal for preparing individuals for entrepreneurship as a preferred career choice (Udokporo, Anosike and Lim 2021). The majority of these learners expressed that exposure to practical situations, diverse methods, and established traditions during their education influenced their consideration of entrepreneurship as a viable career path.

Hauser (2022) asserts that entrepreneurship education shapes youths into responsible and enterprising individuals through real-life learning experiences. Such education encourages them to think critically, take calculated risks, manage complex situations, and learn incidentally from the outcomes of their decisions. This approach not only equips learners with the necessary skills and knowledge to succeed in entrepreneurial ventures but also fosters a mindset geared toward innovation and resilience in the face of challenges. By integrating entrepreneurship education into their learning pathways, youth can better navigate the complexities of starting and running a business, contributing to economic growth and job creation.

Entrepreneurship education also aims to inspire creativity, enabling students to recognise opportunities for innovation and transform ideas into real-world activities across social, cultural, or economic contexts (Mahaputra 2022). Yazdanparast and Alhenawi (2022) emphasise that entrepreneurship education is globally acknowledged as a powerful tool for self-empowerment, career development, and wealth creation. The overarching goal of entrepreneurship education is to develop entrepreneurial skills, making it imperative to prioritize these skills in the education system. This prioritization ensures the employability of graduates who are not just job hunters but, more importantly, job originators.

Nowadays, Entrepreneurship Education (EE) is one of the fastest-rising fields of education globally (Udokporo, Anosike and Lim 2021). This underscores the importance of entrepreneurship for any society's economy. The vital role of entrepreneurship education primarily lies in promoting an entrepreneurial mindset among young people, especially those in universities and higher education institutions, enhancing their career choices towards entrepreneurship.

Cuandra and Tan (2021) emphasise the acknowledged influence of entrepreneurship education (EE), training, and assistance as essential elements in fostering favourable perceptions of competence for start-up enterprises. Their research was conducted in Nigeria, where they assessed the effectiveness of entrepreneurship education programmes in fostering confidence and improving the entrepreneurial abilities of youth. The research highlighted that, in a nation plagued by unemployment and economic difficulties, imparting entrepreneurial knowledge and skills to the youth can enable them to generate their own opportunities and foster economic development (Udokporo, Anosike and Lim 2021). Yu, Rothenberg and Moore (2021) concur that a well-organised EE framework can alleviate elevated youth unemployment rates by promoting a culture of self-employment. Moreover, entrepreneurship education is crucial for cultivating the entrepreneurial ecosystem, guaranteeing that new entrepreneurs have the networks and resources essential for success (Mahaputra 2022).

Littlewood and Holt (2018) established that involvement in entrepreneurship programmes markedly elevates the perceived likelihood of initiating a firm, indicating that entrepreneurial education can augment entrepreneurial intentions. Their research, conducted at multiple higher education institutions in the UK, demonstrated how organised entrepreneurship education can transform students' perceptions and motives, hence enhancing their propensity to consider entrepreneurship as a feasible career path (Mehdizadeh, Shiri and Kartalaei 2023). This discovery is especially pertinent in a rapidly changing economic environment, where conventional work pathways may insufficiently address the ambitions of the youth (Adebayo and Ullah 2023). Although EE can enhance entrepreneurial intention (EI), it is essential to recognise that multiple factors affect EI. Researchers have examined human, organisational, and institutional factors influencing entrepreneurial development. Individual factors include demographic characteristics, parental and grandparental status, role models, entrepreneurial self-efficacy (ESE), locus of control, self-realisation, independence, recognition, entrepreneurial experience, personality traits, and subjective norms (Kumar and Singh 2023). These characteristics importantly influence an individual's propensity for entrepreneurship and can either promote or obstruct entrepreneurial endeavours.

Organisational elements, including culture and norms, institutional quality, and the influence of entrepreneurship education on student's emotional intelligence, have a crucial role in shaping entrepreneurial intents (Maheshwari, Kha and Arokiasamy 2023). The calibre of the educational institution and the resources it offers can augment the learning experience and equip students for entrepreneurial challenges (Aboobaker and KA 2023).

Finally, institutional issues, such as economic stability and capital accessibility, affect entrepreneurial development (Baiocco, Leoni and Paniccia 2023). The economic environment and the accessibility of finance alternatives are essential in influencing individuals' willingness to undertake entrepreneurial risks (Nosrati, Kim and Leung 2023). Entrepreneurial mindsets, developed through education and conducive circumstances, markedly affect individuals' willingness to seek entrepreneurial

possibilities, hence propelling entrepreneurial activity (Udeagha and Muchapondwa 2023).

### **2.5.1 Purposes of Entrepreneurship Education**

The purposes of entrepreneurship education clearly show that it is concerned with the development and survival of both the individual and society. It is a tool through which social, economic, and political development can be achieved. The objectives of entrepreneurship education were stated by Alakaleek, Harb and Harb (2023) as follows:

- ❖ To provide meaningful education for youth which could make them reliant and then encourage them to drive profit and be self-independent.
- ❖ To provide graduates with the training and support needed to help them establish a career in small and medium-sized businesses.
- ❖ To provide graduates with employable skills that will make them meet the manpower needs of society.
- ❖ To provide graduates with enough training in risk management to make uncertainty bearing possible and easy.
- ❖ To stimulate industrial and economic growth of rural and less developed areas.
- ❖ To provide graduates with enough training that will make them creative and innovative in identifying new business opportunities.
- ❖ To provide small and medium-sized companies with the opportunity to recruit qualified graduates who will receive training and tutoring in the skills relevant to the management of the business centre.
- ❖ From the above objectives, it is obvious that this type of education if it is given all it deserves and properly implemented will produce quality graduates that will foster job creation and reduce or eradicate poverty in South Africa and globally.

### **2.5.2 Importance of Entrepreneurship Education in Job Creation**

Entrepreneurs are widely acknowledged as key catalysts of economic expansion and employment generation, especially in developing economies. Their capacity to create

jobs not only sustain their own livelihoods but also those of others, thus importantly contributing to poverty alleviation and improving the quality of life in communities. Ndofirepi, Rambe and Dzansi (2018) assert that entrepreneurs play a vital role in the economic framework by creating small business centres, which are essential sources of employment. These enterprises not only provide employment for entrepreneurs but also generate job opportunities for a wider labour force, thereby promoting local economic development.

The importance of entrepreneurship in employment creation is due to its diverse effects on multiple economic aspects (Purbasari, Muhyi and Sukoco 2020). New enterprises frequently stimulate heightened rivalry, creativity, and productivity within a region, perhaps leading to an improved standard of living. Entrepreneurs effectively leverage and coordinate resources such as human capital, materials, financial assets, and technological innovations to capitalise on market possibilities, hence promoting economic dynamism. This ability to recognise and leverage market deficiencies fosters economic expansion and promotes a culture of self-sufficiency and resilience within the community (Purbasari, Muhyi and Sukoco 2020).

Entrepreneurship is especially crucial in rural regions since it can alleviate the issues related to rural migration. A number of young adults relocate to metropolitan areas in pursuit of enhanced possibilities, resulting in urban overpopulation and resource strain (Namkesa 2024). Establishing small to medium companies (SMEs) in these regions might generate local employment possibilities, diminishing the necessity for migration and promoting sustainable rural development. Research in sub-Saharan Africa indicates that fostering entrepreneurship in rural areas enhances economic resilience and elevates communal welfare (Ndofirepi 2022). This study emphasises the significance of entrepreneurial endeavours in mitigating rural unemployment and fostering a conducive climate for local enterprises.

Furthermore, entrepreneurship is essential for diversifying a region's economic foundation. Through the promotion of small business development, entrepreneurs mitigate reliance on conventional industries, thus bolstering economic stability (Namkesa 2024). This diversification is crucial for cultivating resilience to economic shocks, since it allows communities to adjust to fluctuating market conditions.

Theodoraki, Dana and Caputo (2022) underscore the significance of entrepreneurship

in fostering innovation and economic diversity, especially in emerging economies. This adaptability is essential for sustainable development, since it allows communities to respond efficiently to changing market demands and global economic trends. Moreover, empirical evidence substantiates the beneficial effect of entrepreneurship on job creation, revealing a robust link between entrepreneurial activities and employment rates. A study by Hossain (2021) in Bangladesh indicated that areas with elevated entrepreneurial activity have reduced unemployment rates. The authors contend that cultivating an entrepreneurial environment through strategic policy and assistance can markedly improve job creation and economic expansion. This evidence highlights the necessity of establishing favourable conditions for entrepreneurship, especially in economically disadvantaged areas.

Besides the obvious benefits of employment creation, entrepreneurship fosters social development through the promotion of inclusivity and empowerment (Al Daboub, Al-Madadha and Al-Adwan 2024). Women and marginalised groups frequently encounter obstacles to employment in conventional sectors; however, entrepreneurship can offer new avenues for economic engagement. Research indicates that empowering these people via entrepreneurial instruction and support can result in substantial enhancements in economic outcomes and social equality (Gümüş, Arar and Oplatka 2021). Entrepreneurship can foster social cohesiveness and promote a more equal society by generating opportunities for various populations.

## **2.6 Entrepreneurial Intention**

Entrepreneurial Intention (EI) is a critical component of the venture creation process, serving as a bridge between conceptual ideas and actionable steps. This relationship is vital for understanding how individuals transition from thinking about entrepreneurship to starting a business. As noted by Mir, Hassan and Khan (2023) EI encapsulates the motivations and aspirations that drive individuals to initiate entrepreneurial ventures. According to Ntshangase and Ezeuduji (2023), intention reflects the extent to which individuals demonstrate their motivation and willingness to engage in specific behaviour.

The importance of fostering an entrepreneurial spirit among youth cannot be overstated, particularly in the context of economic development. Makuya and Changalima (2024) emphasize that nurturing EI is essential for unlocking the economic potential of youth, thereby contributing to poverty alleviation, job creation, and the mitigation of societal challenges such as crime that are often associated with high unemployment rates. The entrepreneurial spirit encourages individuals to recognize opportunities, take risks, and innovate, which are fundamental qualities needed to thrive in today's competitive landscape.

In Bangladesh, the role of various influencers is paramount in shaping the EI of young individuals. Agolla, Monametsi and Phera (2019) highlight the important impact of parents, family members, teachers, and media in motivating youth to engage in entrepreneurial activities. These influencers not only provide encouragement and support but also serve as role models who can inspire young people to pursue entrepreneurship as a viable career path. The presence of a supportive environment, characterized by encouragement from influential figures, is crucial for developing EI and fostering a culture of entrepreneurship.

Research indicates that when young individuals receive encouragement and mentorship from their immediate social circles, they are more likely to develop positive entrepreneurial attitudes. For instance, a study by Bauman and Lucy (2021) found that young entrepreneurs who had dedicated support systems from their families and peers demonstrated higher levels of EI and were more likely to pursue their business ideas. This suggests that the social context in which individuals are embedded plays a crucial role in shaping their entrepreneurial aspirations and intentions.

Furthermore, educational institutions also play a significant role in cultivating EI among young people. Integrating entrepreneurship education into the curriculum can provide students with the necessary skills, knowledge, and confidence to consider entrepreneurship as a viable career option. According to a study by Olsson and Bernhard (2021), exposure to entrepreneurship education importantly enhances students' EI by equipping them with practical skills and knowledge about starting and managing a business. This educational approach fosters a proactive mindset and prepares youth to navigate the challenges associated with entrepreneurship.

Moreover, the influence of media cannot be overlooked in this context. In today's digital

age, media plays a pivotal role in shaping perceptions and attitudes toward entrepreneurship. Zhang and Huang (2021) argue that media exposure can increase awareness about successful entrepreneurs, innovative business ideas, and available resources, thereby motivating youth to consider entrepreneurship as a career path. Positive media portrayals of entrepreneurship can help designate failure and promote a growth mindset, encouraging young people to take calculated risks in their entrepreneurial pursuits.

Additionally, societal attitudes toward entrepreneurship can importantly influence EI. In cultures where entrepreneurship is celebrated and recognized as a path to success, individuals are more likely to pursue entrepreneurial ventures. Conversely, in environments where entrepreneurship is not viewed favourably, youth may hesitate to pursue their business ideas due to fear of failure or societal disapproval. Researchers such as Ogunlela and Tengeh (2021) have highlighted the importance of creating a supportive entrepreneurial ecosystem that encourages youth to take leap into entrepreneurship without fear of negative repercussions.

## **2.7 Management Skills**

Management skills are essential for the efficient operation of all firms, especially Small and Medium Enterprises (SMEs), which frequently contend with constrained resources and distinct problems. Essential management talents include strategic planning, leadership, business plan formulation, financial expertise, marketing, project management, operational efficiency, and human resource management. Galvão, Marques and Ferreira (2020) assert that the lack of these abilities might importantly impede an entrepreneur's capacity to manage the intricacies of operating a business.

Studies demonstrate that numerous enterprises fail owing to insufficient entrepreneurial acumen and fundamental managerial competencies. González-Pérez and Ramírez-Montoya (2022) contend that the failure to strategically plan, manage resources efficiently, and lead teams frequently leads to business failure, especially in SMEs. A study in South Africa corroborates these findings, indicating that inadequate training and education lead to substandard management practices, thereby diminishing the success prospects for small firms (Lester and Crawford–Lee 2023). The situation is further worsened by the restricted availability of training programmes and educational resources specifically designed for SMEs, which might hinder growth and sustainability.

The lack of educational and training options, along with inadequate managerial abilities, has considerable consequences for SMEs. Pham (2021) asserts that entrepreneurs must actively pursue the requisite skills across all functional domains of business to improve their chances of success. This is particularly relevant in competitive markets, where proficient management can differentiate successful firms from those that falter. The absence of formal education and training frequently causes entrepreneurs to depend on intuition instead of established business concepts, which can be harmful eventually.

Research in the Western Cape area of South Africa underscores the difficulties encountered by SME operators in operating their businesses. Håkanson, Lindqvist and Vlachos (2021) discovered that numerous entrepreneurs rely on their instincts and experiences instead of formal management training. This dependence on instinct not only constrains their capacity to execute good strategies but also heightens their susceptibility to market volatility and operational difficulties. As the corporate environment grows more competitive, the necessity for extensive expertise in diverse areas of company management becomes increasingly vital.

Entrepreneurs can benefit from management tools that boost their inherent management talents to tackle these difficulties. Phiri and Mwale (2022) assert that management tools can enhance an entrepreneur's talents, but they ought to supplement rather than supplant conventional management approaches. Tools like performance indicators, project management software, and financial planning models offer entrepreneurs systematic methods for decision-making, resource allocation, and operational efficiency. The incorporation of these technologies can facilitate more informed decision-making, hence enhancing the sustainability and growth of SMEs.

Furthermore, the enhancement of management abilities transcends individual aptitude and necessitates the establishment of a conducive ecology for entrepreneurs. This ecosystem comprises educational institutions, governmental programmes, and industry groups that offer essential training and resources for skill enhancement. Studies demonstrate that nations investing in entrepreneurship education and management training for SMEs achieve greater innovation and economic growth (Sairmaly 2023). In South Africa, numerous efforts designed to enhance entrepreneurship education and training have demonstrated encouraging outcomes in augmenting managerial skills among small business proprietors.

## **2.8 Operational Skills**

Entrepreneurs necessitate a varied array of skills to effectively manage the intricacies of operating a corporation. Conceptual competency is crucial, involving inventive thinking, risk-taking, decision-making, observation, and the capacity to understand complex information. Charrón Vías and Rivera-Cruz (2020) assert that conceptual competency enables entrepreneurs to recognise opportunities and problems, make educated decisions, and execute innovative solutions. This talent is not solely theoretical; it is evident in the entrepreneur's capacity to integrate diverse information and implement it in practical situations, which is crucial for business sustainability and expansion.

Successful entrepreneurship according to Saihu (2020) necessitates the cultivation of diverse business skills by entrepreneurs. In view of Saihu (2020) essential competencies, including business plan formulation, financial literacy, marketing, leadership, operational efficacy, and human resource management. These competencies constitute the basis for efficient corporate operations. Financial acumen equips entrepreneurs to manage cash flow and interpret financial statements, whereas marketing abilities enable them to efficiently promote their products. Leadership abilities are essential as they enable entrepreneurs to cultivate cohesive teams and inspire people to pursue shared objectives. A detailed business plan is essential for directing the organisation, establishing goals, and delineating strategies for success (Saihu 2020).

Furthermore, successful entrepreneurs possess a profound comprehension of company dynamics. Charrón Vías and Rivera-Cruz (2020) assert that skills represent the application of knowledge through action, suggesting that an entrepreneur's capacity

to utilise knowledge successfully results in concrete outcomes. This profound comprehension of each company subject empowers entrepreneurs to make educated decisions and respond effectively to market fluctuations. The attainment of such knowledge frequently arises from both formal education and practical experience, highlighting the significance of lifelong learning in business (Charrón Vías and Rivera-Cruz 2020).

Adeniyi (2023) notes that the significance of comprehensive business acumen is paramount, particularly in relation to coordination and efficient business operations. Entrepreneurs must synchronise diverse business components such as marketing, finance, and operations to enhance profitability and growth. Ho and Lu (2024) asserts that excellent coordination enables entrepreneurs to transcend the constraints of individual knowledge and capitalise on the strengths of their teams. An entrepreneur proficient in marketing may lack equivalent financial acumen. By collaborating with a proficient accountant or financial manager, they can guarantee effective financial administration while concentrating on marketing ideas (Adeniyi 2023).

Practical examples demonstrate how entrepreneurs attain success by developing conceptual competencies and business acumen. A study of SMEs in South Africa indicated that entrepreneurs participating in training programmes aimed at enhancing these competencies were more inclined to innovate and address customer requirements (Alakaleek, Harb and Harb 2023). These training programs frequently integrate experiential learning opportunities, allowing learners to use theoretical concepts in practice. Consequently, entrepreneurs acquire practical experience in decision-making, risk evaluation, and problem-solving, thus improving their capacity to thrive in a competitive landscape.

Furthermore, numerous entrepreneurial assistance organisations offer materials designed to improve conceptual proficiency and business acumen. Local government and non-profit organisations frequently implement initiatives such as mentorship programmes, workshops, and networking events that link entrepreneurs with industry professionals. Such initiatives cultivate an entrepreneurial ecosystem that promotes information sharing and collaboration, hence enhancing the overall development of entrepreneurial abilities within the community (Theodoraki 2024).

## **2.9 Business Creativity and Innovation**

Entrepreneurial orientation positively influences innovation and growth in smaller businesses (Wahyuni and Sara 2020). Innovation is a key driver of social and economic development, requiring entrepreneurs to possess characteristics such as creativity and innovation. Creative and innovative entrepreneurs are flexible, confident in their abilities, and willing to take risks (Audretsch and Belitski 2021). Creativity involves the creation of new ideas, leading to innovation. Entrepreneurs must be prepared to face challenges and risks associated with innovation, contributing to the growth of an organisation and allowing entry into new markets with improved products (Balková, Lejsková and Ližbetinová 2022). Small and medium enterprises, besides contributing to poverty alleviation and employment, are acknowledged globally as key drivers of innovation in economies (Rathogwa and Msimango-Galawe 2023).

## **2.10 Opportunity Identification**

Entrepreneurs play a pivotal role in the success of Small and Medium Enterprises (SMEs) by utilizing their competencies to create and develop businesses through innovative activities, introducing new products or services, and improving existing production or service methods. One critical competency for entrepreneurs is Opportunity Competency, defined by Louw (2020) as the ability to identify market opportunities through various means. This competency involves practices such as recognising services or products needed by customers, identifying neglected customer needs, seeking advantageous products and services, and benefiting from the best opportunities.

Tlapana and Dike (2020) observe that entrepreneurs not only recognise but also create opportunities by carefully analysing market needs and deploying resources effectively. Opportunity development is a cyclical and iterative process involving recognition, evaluation, and development of opportunities. Major influencing factors in this process include entrepreneurial alertness, information asymmetry, social networks, personality traits (optimism, self-efficacy, creativity), and the nature of the opportunity itself.

Entrepreneurial alertness is a key factor, influenced by personality traits, prior

knowledge, and social networks. The specificity of knowledge about market needs and resources also affects the opportunity development process (Tlapana and Dike 2020).

Identification and seizing business opportunities are critical to a business's success. Many businesses begin due to identified market gaps, and entrepreneurs must possess the skills to identify and pursue feasible opportunities. In the fashion industry, entrepreneurs create opportunities by addressing consumer needs for emerging trends, indicating the importance of recognising and managing creativity and innovation to capitalise on identified opportunities (Malinao and Ebi 2022).

### **2.11 Business Risks and Assessment**

To manage risk, fashion entrepreneurs must be aware of key aspects and functions within the fashion enterprise and exercise control (Effeney 2020). Awareness of potential risks and the ability to minimize them is essential for successful fashion entrepreneurship. Developing a diverse range of business skills is crucial for minimizing risks and ensuring the optimal operation of a fashion business. Training and knowledge in entrepreneurial and business skills are fundamental for creating successful fashion entrepreneurs (Dvorský, Petráková and Fialová 2020).

Entrepreneurs according to Hossain (2021) face risks at financial, personal, and reputational levels, and misinterpretation or inadequate risk mitigation actions can lead to business loss or failure. Effective risk assessment is crucial, requiring entrepreneurs to evaluate potential rewards and consequences before making decisions. Risks in the fashion industry evolve over time and must be identified and analysed regularly to ensure sustained business success. Fashion entrepreneurs, particularly those in the black Fashion, Entertainment, Women, and Film sector, require a high tolerance for risk along with the ability to make calculated decisions regarding goal setting, strategy formulation, and resource management (Hossain 2021).

The dynamic nature of the fashion industry necessitates that entrepreneurs continuously assess market conditions and consumer preferences to adapt their strategies accordingly. Furthermore, Imperiale and Vanclay (2021) emphasize the importance of strategic risk management in entrepreneurship, suggesting that those who proactively identify and mitigate risks are more likely to achieve long-term success.

In addition, tolerance for risk allows these entrepreneurs to navigate uncertainties and seize opportunities that others may overlook. As noted by Krüger and Meyer (2021), effective risk management not only enhances decision-making but also fosters innovation, enabling fashion entrepreneurs to differentiate themselves in a competitive landscape. Thus, cultivating a strong risk management framework is essential for black entrepreneurs aiming to thrive in an ever-changing industry.

## **2.12 Business Passion**

Yitshaki and Kropp (2019) conducted their research in the context of entrepreneurship and business management, exploring the role of passion in driving entrepreneurial success. Their study emphasizes that passion is not just a personal trait but a critical driver that influences an entrepreneur's commitment and resilience in the face of challenges. By examining various entrepreneurial ventures, the researchers aimed to uncover how passion manifests in business activities and how it contributes to overall entrepreneurial performance (Yitshaki and Kropp 2019).

The study highlighted the significance of passion in the entrepreneurial process, suggesting that it fosters creativity, innovation, and persistence (Slim and Celiberti 2021). Passionate entrepreneurs are more likely to invest the necessary time and resources in their ventures, ultimately leading to greater business success (Aboobaker and KA 2023). The research underscored the relevance of understanding passion in the context of entrepreneurship, as it can inform educational programmes and support systems designed to cultivate entrepreneurial spirit among individuals (Baiocco, Leoni and Paniccia 2023)

Chatterjee and Das's findings are particularly relevant to the current study, as they align with the notion that personal traits, such as passion, are essential for navigating the complexities of starting and managing a business (Belas and Rahman 2023). By linking

passion to entrepreneurial outcomes, their research contributes to a deeper understanding of the psychological factors that drive individuals to pursue entrepreneurship and the impact these factors have on their success (Carpio 2023).

### **2.13 Results-Oriented Attitude**

Entrepreneurial orientation (EO), a concept established by Anwar and Shah (2021), denotes the strategic stance of organisations about their inclination towards innovation, proactiveness, and risk-taking. The aspects of entrepreneurial orientation are essential for fostering a mentality that enables organisations to navigate and succeed in competitive landscapes (Ferreira, Coelho and Moutinho 2020). Entrepreneurial education aims to enhance performance, behaviour, and mindset, thereby importantly contributing to the development of creative skills vital for innovation (Anwar and Shah 2021). Educational initiatives designed to augment entrepreneurial orientation can enable entrepreneurs to cultivate and utilise their creative skills to effectuate change across diverse industries (Chew, Tang and Buck 2022).

Entrepreneurs are perceived as catalysts of innovation, making substantial contributions to a nation's economic, social, and technological advancement by instigating revolutionary changes within their contexts (Adel and Younis 2023). This viewpoint highlights that an entrepreneurial attitude positively impacts small and medium firms (SMEs) by improving brand performance and market execution, which are essential catalysts for economic growth. For SMEs, robust entrepreneurial orientation correlates with adaptability and responsiveness to market needs, enabling these enterprises to seize emerging opportunities and maintain their competitive advantage (Adel and Younis 2023).

The choice to engage in self-employment is shaped by multiple variables that draw individuals to entrepreneurship. Factors such as the pursuit of profit and the allure of appealing chances importantly influence the decision-making process regarding self-employment (Eniola 2020). In contrast, inadequate income and work discontent may dissuade individuals from conventional employment, prompting them to explore entrepreneurship as a feasible alternative (Olutuase, Brijlal and Yan 2023).

Moreover, proficient communication and information accessibility are essential in influencing undergraduates' aspirations for self-employment, as they enhance awareness of accessible options and requisite resources (Juma, Olabisi and Griffin-EL 2023).

Financial factors can substantially influence self-employment aspirations. Parental occupations, diverse finance mechanisms, and peer influence can furnish essential support and motivation for prospective entrepreneurs (Mibey, Ngugi and Juma 2023). A clearly articulated company concept, along with a conducive financial landscape, increases the probability of persons moving towards self-employment (Naznen, Al Mamun and Rahman 2023). Ultimately, individual motives, educational influences, and financial support systems collectively shape entrepreneurial ambitions, underscoring the complex character of entrepreneurs (Yandi, Hermawan and Suharsono 2023).

#### **2.14 Role of Entrepreneurs in Economic Development**

In an increasingly competitive global environment, countries are actively pursuing economic activities that support long-term sustainable growth and employment opportunities (Anwar and Shah 2021). Entrepreneurship and small and medium enterprises (SMEs) are widely regarded as viable avenues to achieve these goals, prompting nations to invest in programmes designed to foster entrepreneurship. The important contributions of entrepreneurs and SMEs to development, employment, wealth creation, and economic growth cannot be overstated (Calderon-Monge, Pastor-Sanz and Garcia 2020). Their importance extends beyond academia, with researchers and funding bodies advocating for private sector development through SMEs to policymakers, addressing issues of social and economic deprivation (Gregori and Holzmann 2020). SMEs are pivotal in generating employment and facilitating skill development for unskilled labour, reinforcing their role in the economic landscape (Higgins-Desbiolles 2020).

Entrepreneurship as stated by Ionescu (2021) is increasingly recognized as the engine of economic growth on a global scale, particularly in its potential to mitigate youth unemployment challenges. For many young individuals, entrepreneurship provides a

pathway to gain experience, foster creativity, and contribute meaningfully to society. The interplay between entrepreneurship and innovation is crucial, as innovation is considered fundamental for organizational survival and growth (Jouzdani and Govindan 2021). To unlock growth potential, reduce poverty, and address inequalities, various strategies, including entrepreneurship promotion, enterprise development, and entrepreneurship education, are proposed as key initiatives (Ruggerio 2021). The importance of youth entrepreneurship is further justified by its critical role in driving innovation, economic growth, job creation, poverty alleviation, and overall empowerment (Uduji, Okolo-Obasi and Asongu 2021).

Ezeh (2023) explains that passion and a results-oriented attitude are integral to entrepreneurial success, influencing creativity, determination, and organisational outcomes. Entrepreneurship education fosters creative abilities, while entrepreneurial orientation contributes to economic development. The role of entrepreneurs in economic development is paramount, with SMEs serving as vital contributors to employment, wealth creation, and overall economic growth. Youth entrepreneurship is seen as a crucial driver for innovation, economic growth, and poverty reduction, necessitating policies and programmes that encourage entrepreneurship among the youth.

The vital role that entrepreneurship plays in the economic development of an economy is multifaceted, encompassing various dimensions that collectively contribute to sustainable growth. This synthesis explores how entrepreneurship establishes itself as a crucial driver of economic development through job creation, innovation, wealth generation, and social impact.

#### **2.14.1 Contribution to Economic Growth**

Entrepreneurs play a crucial role in addressing the persistent issue of unemployment in underdeveloped nations by providing immediate large-scale employment opportunities (Andreoni and Chang 2019). The formation of new business units, both small and large-scale, creates numerous job opportunities and contributes to effective resource mobilisation, bringing new products and services to market. This activity fosters

economic growth, leading to an increase in gross domestic product (GDP) and per capita income. Entrepreneurs contribute to the improvement of living standards by embracing innovative production methods and offering a wide variety of goods and services at lower costs, thus enhancing the overall standard of living.

#### **2.14.2 Creation of Innovation**

Entrepreneurs are inherently driven by a desire for change, continually introducing innovative ideas and combinations of factors to drive economic development through innovation (Audretsch and Belitski 2021). Their pursuit of newer methods of production leads to the creation of goods and services, fostering economic development. Small businesses, particularly in African countries, are recognised for their innovation and contribution to economic growth (Mackett 2022). Entrepreneurs contribute to economic progress by introducing original knowledge, goods, and services, fostering competition that encourages existing organisations to be more competitive. The innovative offerings of entrepreneurs result in new employment opportunities, creating a positive impact on related businesses and sectors and further contributing to economic development.

In South Africa, as in other African nations, SMEs play an important role in economic development. These businesses generate a substantial portion of the country's GDP and contribute to job creation. However, the majority of SMMEs in South Africa are informal, survivalist micro-businesses, facing various challenges such as inadequate finance, limited market access, crime, labour law repercussions, insufficient education and training, and the legacy of being previously disadvantaged (Miller 2022). Despite these challenges, the vibrant SMME segment is recognised as a beneficial driver of national economic development, contributing importantly to GDP and employment.

Munemo (2022) identified various external factors and motivating elements critical for the development of Small, Medium, and Micro Enterprises (SMMEs). Among these, access to training for entrepreneurs, partnerships with innovation organizations, access to credit, and robust infrastructure are emphasised as essential components that

facilitate SMME growth. Despite these supportive elements, numerous challenges persist, importantly affecting the ability of SMMEs to thrive in South Africa. However, challenges such as poor access to finance continue to hinder the development and creation of businesses in South Africa (Rizqi, Pratikto and Kusdiyanti 2022).

## **2.15 Challenges Facing SMMEs in South Africa**

Despite the critical role that SMMEs play in driving economic growth and job creation in South Africa, they encounter numerous challenges that hinder their development and sustainability. These challenges, if not addressed, threaten the potential of SMMEs to contribute effectively to the economy.

### **2.15.1 Lack of Adequate Finance**

Finance is essential for growth, innovation, and job creation of businesses, particularly Small, Medium, and Micro Enterprises (SMMEs) (Schou, Bucher and Waldkirch 2022). The elevated failure rate of SMMEs in South Africa is significantly associated with insufficient access to finance, posing a substantial challenge for entrepreneurs. Access to finance is crucial for businesses throughout their development, facilitating investments in new technologies, recruitment of skilled personnel, and operational expansion. Nevertheless, most South Africans encounter considerable obstacles in obtaining financial resources. Banks and lenders generally prefer to invest in businesses with a proven track record, which often results in start-ups and early-stage companies facing challenges in obtaining essential funding (Torres and Godinho 2022).

The absence of financial literacy and skills intensifies these challenges. Numerous entrepreneurs, especially in underdeveloped regions, often lack a comprehensive understanding of the financial products accessible to them and the effective management of their finances. The absence of this knowledge may result in suboptimal financial decisions, thereby impacting on the sustainability of their enterprises (Miller 2022). Both male and female entrepreneurs face these challenges, with evidence indicating that women entrepreneurs are especially disadvantaged in obtaining financing, which can impede their business sustainability and growth (Ntuli 2022).

Financial constraints are often recognised as a major obstacle to the establishment and growth of small businesses in South Africa (Weigel and Hiebl 2023). The Global Entrepreneurship Monitor (GEM) South Africa 2014 report highlights that limited access to funding and low productivity are key factors contributing to business discontinuation in the country. This underscores the essential function of finance in both the initial phases of business development and the ongoing maintenance of operations over time.

Securing funding for start-ups presents a significant challenge for entrepreneurs, particularly for those without an established business history. Graduates and novice entrepreneurs frequently encounter credibility challenges that impede their capacity to obtain funding for their enterprises (Oladipo, Platt and Shim 2023). New entrepreneurs, lacking prior experience or a validated business model, are frequently regarded as high-risk investments by financial institutions. This perception may result in a cycle of restricted funding opportunities, hindering business growth and economic contribution.

The structure of financing options available to SMMEs in South Africa complicates access to capital. Numerous entrepreneurs lack awareness of alternative funding sources, including angel investors, venture capitalists, and government grants and support programmes, which could offer essential financial backing to help them surmount initial challenges. The absence of awareness and comprehension of these options limits their capacity to utilise available resources for growth (Sairmaly 2023).

### **2.15.2 Limited Market Access**

Restricted market access presents a considerable risk to the viability of Small, Medium, and Micro Enterprises (SMMEs) in South Africa. Entrepreneurs frequently face limitations in marketing capacity, hindering their ability to identify new or niche markets. Consequently, numerous businesses function in saturated markets characterised by intense competition, which poses significant challenges to their survival and growth (Makwara, Sibanda and Iwu 2023). The failure to effectively engage potential customers constrains growth potential and compromises efforts to develop a sustainable business model.

The hesitance of South African youth to participate in entrepreneurship intensifies the

issue of restricted market access. A significant number of young individuals view the market landscape as weak, exacerbated by the absence of appropriate commercial centres for their products and inadequate training facilities to provide essential skills (Enaifoghe 2024). This perception deters the younger generation from engaging in entrepreneurial ventures, thereby constraining the emergence of new businesses and innovative concepts that could revitalise the market.

Established businesses encounter challenges in expanding their market share and securing advantageous terms with dealers, resulting in a competitive landscape that complicates market entry for newcomers. Newly formed businesses may encounter difficulties in establishing a foothold due to the lack of established relationships and brand recognition that existing companies have, particularly in industries where reputation and trust are essential for success (Hanifah, Purnomo and Dai 2024).

Additionally, newly established enterprises frequently face liquidity issues that impede their capacity to capitalise on market opportunities. Restricted access to capital hinders their capacity to invest in marketing initiatives, enhance product development, or scale operations in alignment with consumer demand (Iwara 2024). The deficiency in financial resources adversely influences market presence and undermines long-term sustainability and growth potential.

### **2.15.3 Crime and Corruption**

High levels of crime and corruption significantly exacerbate the challenges faced by both formal and informal SMMEs in South Africa. According to Herbig (2019), crime and corruption undermine the entrepreneurial environment, deterring potential investors and entrepreneurs from establishing and growing their businesses. The lack of safety and security creates a climate of fear that discourages business activities, prompting many entrepreneurs to abandon their ventures or operate informally, which further stunts economic growth.

In the South African context, crime is often intricately linked to unemployment and socio-economic issues. Wikström (2020) emphasizes that crime poses a serious barrier to small business development, particularly in communities with high unemployment rates. The desperation stemming from economic hardship can lead to increased criminal

activity, which in turn exacerbates the challenges faced by SMMEs. Entrepreneurs operating in high-crime areas are compelled to invest in security measures, diverting valuable resources away from productive activities such as marketing and expansion. Consequently, the high cost of security further restricts the growth potential of these businesses.

Moreover, the necessity for government collaboration with various organizations to combat crime is paramount. Mmakwena and Moses (2022) argues that fostering partnerships between the government and community organizations is essential for creating safer environments conducive to entrepreneurship. These collaborations can include community policing initiatives, youth engagement programmes, and business forums aimed at addressing local safety concerns. Such efforts can enhance the perception of safety and security, thereby encourage entrepreneurial activities and attracting investment.

Corruption, particularly at the local government level, further complicates the landscape for SMMEs. Although the situation in Zimbabwe, where corruption is reported to be as high as 60 percent (Madziyauswa 2024), illustrates the severe impact corruption can have on entrepreneurship, similar issues exist in South Africa. Entrepreneurs often encounter bureaucratic hurdles, with corrupt practices hindering their access to resources and support programmes designed to stimulate business development. This creates an uneven playing field, where only those willing to engage in corrupt practices can access opportunities, thereby stifling fair competition.

## **2.16 Chapter Summary**

This chapter examines the entrepreneurial ecosystem, emphasising its relationship with the Sustainable Development Goals (SDGs) and the challenges encountered in developing these ecosystems, especially for the youth. Educational institutions, particularly universities, are reported to be essential in cultivating entrepreneurial talent and creating an environment that promotes innovation. Aligning entrepreneurial initiatives with the Sustainable Development Goals (SDGs) enables stakeholders to establish a framework that fosters sustainable practices and addresses the socio-economic challenges confronted by youth entrepreneurs.

This chapter examines the defining characteristics of youth entrepreneurship and the key factors that impact business formation. It highlights the importance of entrepreneurial education in providing young individuals with essential skills and knowledge for effectively starting and managing a business. The discourse on entrepreneurial intention elucidates the motivations that propel youth into entrepreneurship, gives an analysis of management and operational skills and offers insights into the competencies necessary for effective business management.

The chapter examines the essential function of entrepreneurs in economic development, emphasising their contributions to economic growth and innovation. It underscores the role of entrepreneurial activities in generating employment and fostering economic advancement. The chapter identifies challenges confronting small, medium, and micro enterprises (SMMEs) in South Africa, such as insufficient access to finance, restricted market opportunities, and the adverse impacts of crime and corruption. The identified obstacles highlight the necessity for specific interventions and support systems to cultivate a dynamic entrepreneurial ecosystem that enables youth entrepreneurs and amplifies their role in economic development.

The next chapter delves into the existing literature on sustainable development programme, examining its definitions, principles, and the various dimensions that underpin this paradigm. By analysing key theories and frameworks, this review highlights the importance of integrating economic, environmental, and social considerations to achieve a balanced approach to development.

## **CHAPTER THREE: SUSTAINABLE DEVELOPMENT PROGRAMME**

### **3.1 Introduction**

This chapter presents a comprehensive literature review on sustainable youth entrepreneurship funding. The discussion begins by defining youth entrepreneurship and providing theoretical foundations related to funding. The section proceeds to examine empirical studies on the subject, placing specific emphasis on the role of universities and the landscape of youth entrepreneurship funding in both South Africa and the global context. Additionally, the chapter introduces an analytical framework that will guide the study's findings analysis, ensuring a coherent presentation of results.

### **3.2 Sustainable Youth Entrepreneurship**

Describing sustainable entrepreneurship requires an understanding of the broader concept, which spans various scientific fields, including economics, psychology, management, and education science. Entrepreneurship is acknowledged as a cultural and economic phenomenon, contributing to economic stimulus, job creation, and community development through the establishment of new businesses, products, and services (Kimanzi 2020). Recent attention has focused on youth entrepreneurship, recognising the potential of young individuals to address societal challenges such as unemployment and anti-social activities.

Examining entrepreneurship from different perspectives, it is viewed as an organisational effort to achieve results economically, individual personal characteristics in psychological sciences, and an element of strategic management in the science of management (Kondalkar 2020). Jouzdani and Govindan (2021) emphasised the importance of personal characteristics, knowledge, and practical skills in understanding entrepreneurship fully. This includes organisational, communication, planning, and problem-solving skills that can be learned, as well as innate traits like perseverance, creativity, self-confidence, initiative, teamwork, negotiation skills, and foresight.

Various authors provide different dimensions of entrepreneurship, emphasising individual characteristics, external market opportunities, and the combination of external

and internal factors (Mathew and Soliman 2021). Sustainable development, as defined by the Brundtland Report (World Commission on Environment and Development 1987), highlights the need to meet present needs without compromising future generations. The relationship between entrepreneurship and sustainable development is explored through concepts like ecopreneurship, social entrepreneurship, institutional entrepreneurship, and responsible entrepreneurship (Al-Kuwari, Al-Fagih and Koç 2021).

Sustainable entrepreneurship as described by Carlsen and Bruggemann (2022) involves discovering, creating, and exploiting opportunities with economic, psychological, social, and environmental consequences. It is a process aimed at achieving sustainable development, creating values for economic prosperity, social cohesion, and environmental protection. Sustainability, encompassing economic, social, and environmental goals, presents challenges and opportunities for various societal stakeholders (Carlsen and Bruggemann 2022).

Sustainability is not merely a set of actions but also a source of opportunities, particularly in the realm of entrepreneurship. Sustainable entrepreneurship addresses complex issues, often characterized as 'wicked' problems, requiring innovative approaches. The growing interest in sustainable entrepreneurship reflects its importance in complementing or even guiding 'new' entrepreneurship (Daugaard and Ding 2022). Recognition of sustainable development as a business opportunity demands skills such as opportunity recognition and interpersonal skills for sustainable entrepreneurs to engage with stakeholders.

Youth entrepreneurship, as described by Lekutle, Ebewo and Shambare (2023), involves the process where young individuals learn about business opportunities, develop and implement their ideas, and acquire entrepreneurial skills. Lekutle, Ebewo and Shambare (2023) note that youth entrepreneurship is a complex subject requiring personal skills like creative thinking, initiative, receptivity, intuition, and willingness to act. The core of entrepreneurship lies in an individual's ability to be proactive, leveraging inner preferences to implement innovative ideas (Lekutle, Ebewo and Shambare 2023). Sustainable entrepreneurship in the context of globalization is influenced by the quality-enhancing processes of globalization and changing consumer needs and behaviour (Lekutle, Ebewo and Shambare 2023).

### **3.3 Sustainable Development**

Sustainability in the business context pertains to a company's ability to thrive in a dynamic competitive environment. Its success is contingent upon how well it aligns with the interests of stakeholders invested in its success (Peterson 2021). Notably, Sakharov and Andronova (2021) note that a sustainable business model is crucial, as a company may appear environmentally sustainable while still being operationally unsustainable.

The World Commission on Environment and Development (WCED, 2017) underscores that sustainable development necessitates firms to concurrently embrace long-term economic, social, and environmental principles. For a company to embody sustainable development, it must integrate economic prosperity, societal well-being, and environmental protection into its products, policies, and practices (Ramkisson 2023). Managing institutional sustainability involves both internal environmental and social measures and external contributions to societal and economic sustainability (Liburd, Menke and Tomej 2024). Institutions must establish criteria for sustainability in evolving environmental conditions, contributing to both self-sustainability and the broader society and economy.

#### **3.3.1 Corporate Sustainability**

Corporate sustainability involves maintaining operations over time and balancing economic, social, and environmental goals (Corsi and Arru 2020). Profitability, long-term growth, innovation, and competitive advantage are integral aspects of corporate sustainability. A sustainable corporate strategy requires equilibrium among economic, social, and environmental elements (Leikin 2021). Achieving sustainability entails satisfying current needs without compromising future generations' ability to meet their own needs (Mahdi and Nassar 2021). Companies attain sustainability by developing strategies that enhance market share, talent acquisition, partner benefits, and reduce operational costs and workforce turnover (Thorisdottir and Johannsdottir 2020). Sustainable businesses survive market risks and internal changes, applying differentiation and cost-led approaches (Siagian, Tarigan and Jie 2021). Sustainable leaders must understand and address the expectations and interests of various (Zeng, Li and Yousaf 2022).

To navigate the complex expectations of stakeholders, businesses should comprehend the systemic interaction of stakeholders and develop effective and sustainable management strategies (Naderi, Monavvarifard and Salehi 2022). Implementing a sustainable strategic plan involves identifying stakeholder interests, creating mutual sustainability interests, and establishing a monitoring strategy to adapt to changes in the business environment (Nee, Beatrice and Yong 2022).

### **3.3.2 Environmental Sustainability**

The environment, encompassing both biotic and abiotic components, is vital for human existence and civilization (Chuang and Huang 2018). It provides resources for infrastructure, technology, and sustenance (Kotter 2019). The environment's intrinsic value becomes evident during ecological crises, emphasising the interdependence between human activities and ecological well-being (Zastrow, Kirst-Ashman and Hessenauer 2019).

Human population growth and excessive resource consumption have raised concerns about environmental degradation (Moroz 2019). Environmental protection advocates argue for regulations to mitigate the negative impact of human activities, addressing issues such as resource depletion, pollution, and climate change (Schaefer, Williams and Blundel 2020). The urgency of environmental protection is underscored by scientific consensus on the anthropogenic contribution to climate change and its far-reaching consequences (Darus, Mohd Zuki and Yusoff 2020).

Sustainable development according to Ketprapakorn and Kantabutra (2019) involves a delicate balance between economic, social, and environmental considerations. Businesses play a crucial role in this paradigm, requiring strategic alignment with stakeholder interests and proactive efforts to ensure environmental sustainability. Understanding and addressing stakeholder expectations, implementing sustainable corporate strategies, and recognising the intrinsic value of the environment are integral to fostering a sustainable future (Ketprapakorn and Kantabutra 2019).

Ebi and Hess (2020) attribute the record-breaking rise in global temperatures to climate change, highlighting collateral factors like ocean acidity. However, environmental skeptics, such as (García and Sanz 2018), challenge these claims. Some deny resource depletion risks, while others acknowledge climate change but reject human responsibility

arguments, asserting that ecological changes are part of the natural course of the universe (Darus, Mohd Zuki and Yusoff 2020).

Environmental sceptics argue for the inexhaustibility of natural resources and believe that human innovation can address challenges like resource depletion or climate change (Nuseir and Aljumah 2020). They contend that regulations are arbitrary (Pertuz and Pérez 2021), advocating for the market to be the primary agent of reasonable regulations. Some assert that the Earth is more robust than portrayed by environmentalists, insisting that it has self-sustained long before human existence (Yacob, Wong and Khor 2019). The economic and ethical argument is another facet, emphasising the need for humans to capitalize on nature's gifts for improved living (Kubera 2024).

A prominent environmental sceptic Udeagha and Muchapondwa (2023), contends that scientists exaggerate environmental issues, asserting that population growth and human activities are not problematic due to the Earth's abundance of resources. AL-Maamari, Vedava and Alrefaei (2023) echoes this sentiment, suggesting that economic growth is the solution to poverty, enabling people to afford a cleaner environment. For sceptics, optimal resource use is seen as the means to alleviate poverty, fund technological advancements, and enhance health (Sairmaly 2023).

Despite these sceptics, public awareness of environmental consequences has risen due to scientific findings and climate change cases. Consumers are increasingly concerned, pressuring corporations to align with environmental sustainability (Gajdzik, Jaciow and Wolny 2023). International organisations and governments have initiated various environmental sustainability initiatives, building on the Millennium Development Goals (MDGs). These goals, including environmental sustainability, have spurred global efforts towards a new paradigm.

### 3.3.3 Economic Sustainability

The concern for environmental issues is reflected in consumer behaviour, as reported by the U.S. National Geographic's (Gajdzik, Jaciow and Wolny 2023). Globally, 61% of consumers express concern about environmental problems, with 51% believing climate change will negatively impact their lives. Moreover, 65% attribute climate change to human activities. Consumers exhibit an increased interest in sustainable behaviour, environmentally friendly practices, local and organic foods, and heightened anxiety about climate change (Gajdzik, Jaciow and Wolny 2023).

Correspondingly, there is growing pressure on corporations to adopt environmentally sustainable practices (Ahmed and Sarkodie 2021). Businesses face challenges in embracing green practices, including the financial burden of sustainability (Naderi, Monavvarifard and Salehi 2022). The costs involve transforming old operational systems into eco-efficient ones, encompassing expenses for new product processes, inventory systems, workplace layouts, packaging redesigns, and compliance with environmental standards (Carlsen and Bruggemann 2022). Sustainability certification programmes further add to the financial burden, requiring investments in eco-friendly practices and compliance measures (Naderi, Monavvarifard and Salehi 2022).

Certification programmes, such as the International Organisation for Standardization (ISO) 14000, aim to improve organisation's environmental performance, promote efficient resource use, and reduce waste and workplace accidents (Taruza 2023). However, small businesses may find the implementation of such programs challenging due to the associated high costs (Kwilinski, Lyulyov and Pimonenko 2023). The financial constraints include expenses for training, documentation, coaching, auditing, certification, and continual improvement programmes (Roldan, Giraldo and Santana 2023).

Despite the financial challenges, Baiocco, Leoni and Paniccia (2023) note that sustainability certifications contribute to a company's marketing strategy, indicating adherence to eco-friendly practices and compliance with regulations. These

certifications, though costly, are viewed as investments that can yield long-term benefits, including savings on insurance premiums and attracting environmentally conscious consumers (Baiocco, Leoni and Paniccia 2023).

Insurers play a pivotal role by offering incentives for sustainable practices. They provide discounts to energy-efficient facilities, indemnifications for companies using renewable materials, and premium credits for environmentally responsible actions (Taruza 2023). This shift toward sustainability aligns with the idea that economic sustainability is a cost-driven programme with higher advantages (Kwilinski, Lyulyov and Pimonenko 2023).

Economic sustainability involves balancing revenue generation and cost savings while addressing environmental, social, and financial obligations. Despite financial challenges, the shift towards sustainability is evident in consumer behaviours, corporate responses, and initiatives by international organisations and governments. The incorporation of sustainability into business models is increasingly seen as a pathway for economic growth and long-term profitability. Moreover, Wasik, Sangadji and Iswanto (2023) cited grants programmes, subventions, and incentives some non-profit organisation or local governments provide to encourage managers to go green. Lesebo, Rambe and Ndofirepi (2023) reported that sustainability leaders save energy, water, and raw materials consumption, and avoid or decrease the probability of legal issues like lawsuits. Sauer and Seuring (2023) admitted the existence of a plethora of sustainability and EMS certifications. However, small business owners do not need to have all the certifications (Belas and Rahman 2023). Retailing business owners, for example, need to be able to identify a few certifications that could meet stakeholders' approbation (Le, Lu and Kweh 2023).

### **3.4 Barriers to Youth Entrepreneurship Development**

The challenges hindering youth entrepreneurship development in South Africa are multifaceted, encompassing various aspects that impede the growth and sustainability of entrepreneurial ventures.

### **3.4.1 Access to Credit**

Access to credit stands out as a major obstacle for aspiring youth entrepreneurs in South Africa. Radebe (2019) notes a positive correlation between the expansion of youth entrepreneurship and access to credit. The difficulty in accessing capital for start-up ventures becomes a barrier, with entrepreneurs facing challenges due to high debt-to-equity ratios and lack of collateral (Tshibangu 2020). Imperiale and Vanclay (2021) reveal that a substantial percentage of local entrepreneurs find it challenging to secure funding, leading to a belief that funding avenues, including public offerings, angel investors, and bank lending, are inadequate. The scarcity and high cost of available capital discourage many potential entrepreneurs from pursuing business ventures in South Africa.

### **3.4.2 Entrepreneurship Education**

Entrepreneurship education plays a crucial role in shaping the mindset and skills of young individuals. However, in South Africa, there is a perceived gap in equipping the youth with practical entrepreneurial skills. While some higher learning institutions offer entrepreneurship education, the focus tends to be more on theoretical aspects than practical application (Bux and Van Vuuren 2019). Galvão, Marques and Ferreira (2020) observed the need for practical exposure, suggesting the establishment of business incubators within universities to bridge the gap between theory and real-world business challenges. The societal preference for white-collar jobs over entrepreneurship adds to the challenge, with a need for a shift in attitudes and an early introduction of entrepreneurship studies in the education curriculum (Hägg and Kurczewska 2022).

### **3.4.3 Parents and Society's Attitude towards Youth Entrepreneurship**

The attitude of parents and society at large constitutes an important barrier to youth entrepreneurship (Maxwell and Schulte 2018). Societal expectations often lean towards traditional employment, discouraging youth from pursuing entrepreneurial ventures. Parents may pressure their children to seek conventional jobs after graduation, perpetuating the perception that it is a riskier path (Du Plessis and Van Niekerk 2017). The lack of encouragement and societal norms that prioritize employment over entrepreneurship contribute to the reluctance of South African youth

to start their businesses (Ezeh 2023).

#### **3.4.4 Bureaucracy and Red Tape**

Bureaucratic hurdles and red tape pose substantial challenges for small businesses and entrepreneurs in South Africa. The regulatory environment is viewed as inflexible and severe, with entrepreneurs spending a vital amount of time dealing with administrative complexities (Gay 2020). Compliance with various regulations, including those related to tax, labour, and Black Economic Empowerment (BEE), is cited as a worthy source of red tape (Monteiro and Adler 2021). The cumbersome nature of regulatory requirements, coupled with the high cost of compliance, acts as a deterrent for entrepreneurs, hindering the growth and development of small businesses.

Olutuase, Brijlal and Yan (2023) assert that barriers to youth entrepreneurship development encompass challenges related to access to credit, deficiencies in entrepreneurship education, societal attitudes, and bureaucratic obstacles. Addressing these barriers requires a comprehensive approach involving changes in educational curricula, shifts in societal perceptions, and reforms in regulatory frameworks to foster a more conducive environment for youth entrepreneurship.

### **3.5 Youth Entrepreneurship Funding**

The theoretical framework underpinning youth entrepreneurship funding highlights the dynamic factors that influence the creation and sustainability of youth enterprises, with a particular focus on funding mechanisms. It addresses the interaction between socioeconomic and individual-specific factors, emphasising motivations, capital mobilisation, funding instruments, and the demand-supply dynamics of microcredit. These elements are crucial for understanding how young entrepreneurs can contribute to sustainable development, particularly in line with the Sustainable Development Goals (SDGs).

#### **3.5.1 Motivations for Youth Enterprise Creation and the Entrepreneurial Process**

Youth entrepreneurship is recognised as a critical pathway to unlocking economic potential, generating income, and addressing unemployment (Tiberius, Weyland and

Mahto 2023). Motivations for youth entrepreneurship vary, with young entrepreneurs driven by psychological, social, and economic factors. Opportunity entrepreneurs, who are motivated by the perceived viability of creating enterprises, play an important role in fostering sustainable economic growth (Maree 2022). Deliberate planning and strategic efforts are emphasised, contrasting with necessity-driven entrepreneurs who pursue business ventures due to lack of employment opportunities (Joensuu-Salo, Viljamaa and Varamäki 2022). Education plays a crucial role in entrepreneurship, influencing entrepreneurial competencies and success. While some argue entrepreneurship is innate, others stress the importance of situational factors and formal education in shaping entrepreneurial capabilities (Paulus and Hermanto 2022).

### **3.5.2 Capital Mobilisation and Funding Instruments for Youth Enterprises**

Capital mobilisation is a cornerstone of youth entrepreneurship. Access to funding is essential for initiating, sustaining, and scaling youth enterprises. Debt and equity financing are the two primary instruments used to secure capital (Mankgele and Fatoki 2020). However, young entrepreneurs face challenges in raising seed funding due to their limited access to financial information, the complexity of funding processes, and overwhelming costs (Sandhu and Hussain 2021). Debt financing options include personal loans, credit cards, and government-sponsored programs, while equity financing involves personal investments, contributions from family and friends, and participation in private equity markets (Iversen and Rehm 2022). Access to external funding, particularly from informal sectors and external financiers, is crucial for fostering business growth and enhancing entrepreneurial outcomes (Chowdhury and Maung 2022).

### **3.5.3 Demand and Supply Dynamics of Microcredit to Youth Enterprises**

The dynamics of youth entrepreneurship funding can be examined through the lens of demand and supply effects. On the demand side, youth entrepreneurs face challenges in meeting funding requirements and accessing information on available funding opportunities (Chowdhury and Maung 2022). The supply side involves institutions that provide funding and the operational support mechanisms they offer to youth entrepreneurs. Liquidity constraints faced by youth-owned businesses can be mitigated through access to microcredit, which is critical for overcoming financial barriers and enhancing business performance (Niyonsaba, Muathe and Namusonge 2022). The demand-supply interplay is essential for facilitating youth participation in the

entrepreneurial ecosystem and supporting their contributions to sustainable development.

Understanding the theoretical underpinnings of youth entrepreneurship funding, including motivations, capital mobilization, and microcredit dynamics, is vital for designing policies and interventions that empower youth entrepreneurs. Addressing key constraints such as lack of credit history, inadequate savings, and limited knowledge of financing possibilities can importantly enhance youth contributions to sustainable development (Wakjira 2023).

### **3.6 Contribution of Development Finance Institutions (DFIs) to Youth Enterprise Development**

Development Finance Institutions (DFIs) play a vital role in supporting youth enterprise development, particularly by providing access to credit and fostering sustainable economic growth. Their contributions are essential in overcoming barriers that hinder young entrepreneurs, especially those related to financing.

#### **3.6.1 Barriers to Credit Access for Young Entrepreneurs**

Youth entrepreneurs face important barriers to accessing credit through traditional financial institutions. These include limited credit histories, lack of collateral, and insufficient savings for startup capital (Bernardino and Santos 2020). High perceived risks, coupled with high interest rates, further hinder their ability to secure funding. Additionally, the limited presence of microfinance institutions catering specifically to youth enterprises exacerbates the funding gap, leaving youth entrepreneurs with fewer financing options and bargaining power (Boateng 2021). Sequeira, Gouveia and de Melo (2024) observed that young, unmarried individuals are often excluded from credit systems due to social and demographic factors, further compounding the barriers to finance.

#### **3.6.2 Supply of Microcredit and Challenges for Small Businesses**

Microcredit has been instrumental in improving the livelihoods of underserved populations globally. However, youth entrepreneurs often encounter challenges in accessing microcredit due to institutional practices that are unfavourable to small, youth-owned businesses (Maduku and Kaseeram 2021). Information asymmetry between small businesses and financial institutions inhibits capital transfer, leading to

inefficiencies and reduced profitability (Nautwima and Asa 2021). Excessively high interest rates also make it difficult for youth entrepreneurs to invest in future growth, limiting their ability to sustain their enterprises in the long term (Lan 2023).

### **3.6.3 Contribution of DFIs to Youth Enterprise Development**

Development Finance Institutions (DFIs) have an important role in bridging the financing gap for youth entrepreneurs, particularly by offering tailored financial products and services aimed at fostering inclusive economic growth (Isa-Olatinwo 2021). DFIs in emerging economies, including South Africa, provide loans, guarantees, and equity positions to support youth entrepreneurship, enabling long-term economic expansion and sustainable livelihoods (Lawal, Ali and Gidado 2024). By extending the maturity of loans and mobilising resources to include marginalized youth, DFIs contribute to broader economic and social development goals (Lajçi, Berisha and Krasniqi 2024). Additionally, their focus on reducing youth unemployment and supporting sustainable enterprises aligns closely with the SDGs, particularly in promoting decent work and economic growth (Mustafa and Suparwata 2024).

DFIs are essential actors in supporting youth entrepreneurship and addressing the barriers young entrepreneurs face in accessing credit. Their contributions to economic development are pivotal, as they help reduce poverty and foster sustainable enterprise growth, particularly in South Africa's evolving economic landscape (Nayak and Pillai K 2024).

## **3.7 Government support towards Youth Entrepreneurship development**

### **3.7.1 National Development Plan and Youth Entrepreneurship**

The National Development Plan (NDP) 2030, South Africa's blueprint for long-term socio-economic development, recognizes the importance of entrepreneurship, particularly among the youth, in addressing unemployment and fostering economic growth (Lubinga and Mukuku 2021). The NDP outlines a vision for increasing the number of young entrepreneurs and establishing a supportive environment that enhances their chances of success. It calls for coordinated efforts across government departments to ensure that youth have access to education, training, and funding that can help them start and grow their businesses (Faulkner 2022).

The government has also enacted various policies and strategies to support youthful entrepreneurs, including the Integrated Youth Development Strategy (IYDS) and the National Youth Policy (NYP) 2020-2030. These policies emphasise the need to promote entrepreneurship as a key driver of youth empowerment and sustainable economic growth (Assaf 2024). Despite these policy frameworks, challenges remain in translating these policies into actionable support for youth entrepreneurs, particularly in terms of funding and infrastructure access.

### **3.7.2 The Role of the National Youth Development Agency (NYDA)**

The National Youth Development Agency (NYDA) is the primary state institution responsible for coordinating and supporting youth development initiatives in South Africa. It plays a critical role in implementing entrepreneurship programmes, providing business funding, mentorship, and training to young entrepreneurs (Rena and Diale 2021). The agency's Youth Microenterprise Relief Fund (YMRF) has been instrumental in offering financial assistance to youth businesses, especially in the wake of the COVID-19 pandemic, which severely impacted small and medium-sized enterprises (SMEs).

However, the effectiveness of the NYDA has been called into question, with criticisms ranging from bureaucratic inefficiencies to corruption and a lack of transparency in fund disbursement (Gqoboka, Anakpo and Mishi 2022). Additionally, many young entrepreneurs have reported that the application processes for NYDA funding are cumbersome and slow, deterring potential applicants (Maharaj and Msomi 2024). Therefore, while the NYDA has made important contributions to youth entrepreneurship, its impact has been limited by various structural and operational challenges.

### **3.7.3 Youth Employment Service (YES) Programme and Its Contribution to Youth Entrepreneurship**

Launched in 2018, the Youth Employment Service (YES) programme is a public-private partnership that aims to create one million job opportunities for young people in South Africa by encouraging businesses to provide work experience to unemployed youth (Edewor, Kollie and Olaoye 2023). This initiative has been recognised as an innovative approach to bridge the gap between education and employment, providing young people with the skills and experience they need to either gain formal employment or start their own businesses (Pennetta, Anglani and Mathews 2024).

The YES programme’s focus on experiential learning is particularly relevant for youth entrepreneurship, as it equips young people with the practical skills necessary to navigate the challenges of running a business. However, the programme has faced challenges in terms of scalability and inclusivity, with many rural and township youth being excluded from its benefits due to geographic and infrastructural constraints (Manyaga, Goldman and Thomas 2024), furthermore, (Nair, Chatterjee and Bagga 2024).

**Table 3.1: Public Development Finance Institutions for Youth Entrepreneurship in South Africa**

<b>Institutions</b>	<b>Activities</b>
<b>Small Enterprise Development Agency (SEDA)</b>	SEDA offers a range of business development services. It provides non-financial services through integrated support agencies across the nation with more than 284 Enterprise Information Centers in municipalities.
<b>Khula Enterprises</b>	Khula facilitates access to finance for small businesses. It has different financing products and works with major commercial banks and private organisations such as business partners. Khula’s operations involve loans, and credit guarantees through commercial banks. It also offers a mentorship programme.
<b>National Empowerment Fund (NEF)</b>	NEF provides various startups for small businesses and rural and community transformation. Its financing capacity ranges from R250,000 to R10 million. NEF focuses specifically on disadvantaged individuals.
<b>Industrial Development Corporation (IDC)</b>	IDC generates its funds independently of the government. It provides various Sector –focused financing products ranging from R 1m, with a specific focus on SMEs and empowerment.

<b>South African Micro Finance Apex Fund (SAMAF)</b>	SAMEF is modelled on the Grameen Bank in Bangladesh. It provides loans of up to R 10 000 to micro and survivalist enterprises in poor areas. Its focus is poverty alleviation.
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**Source:** Osigwe, Okechukwu and Agupusi (2017)

Beyond the institutions listed above, there are many other developmental institutions established in various provinces like the Gauteng Enterprise Propeller (GEP) etc. Further than that Government in 2009 constituted the NYDA, a Development Finance Institution tasked with the responsibility of overseeing youth developmental matters. Ndlovu and Lefera (2024) argue that start-up enterprises in South Africa still experience a myriad of funding obstacles and faces a high failure rate despite a wide range of financial support institutions put in place by the government to propel entrepreneurial development in the country.

#### **3.7.4 Small Enterprise Finance Agency (SEFA)**

The Small Enterprise Finance Agency (SEFA) stands as a developmental finance institution, established in 2012 as a wholly owned subsidiary of the Industrial Development Corporation (IDC). It amalgamates the functions of three previous structures, namely Khula, Samaf, and the IDC's small business activities, with the primary objective of creating an environment conducive to fostering the growth of Small, Medium, and Micro Enterprises (SMMEs). SEFA aims to contribute importantly to job creation and poverty reduction within the South African society (Saah and Musvoto 2020).

SEFA's product portfolio encompasses three main categories.

**Direct Lending:** This includes a range of financial products such as asset finance, bridging loans, revolving loans, and term loans. The financial packages offered in this category span from R50,000 to R5 million.

Wholesale Lending: Encompassing credit guarantees, revolving loans, structured finance solutions, and term loans, this category provides financial support ranging from R500,000 to R5 million.

Non-Financial Support: SEFA extends support beyond financial services through post-loan mentoring, institutional strengthening, management and technical support, board representation, and assistance related to commercial and industrial properties (Baloyi and Khanyile 2022).

The disbursement of financial services is strategically allocated among different target groups, aligning with the institution's business mandate. The table below provides a breakdown of how financial services are distributed across various target groups. SEFA's multifaceted approach, combining financial instruments with non-financial support, underscores its commitment to nurturing and sustaining the growth of SMMEs in South Africa. Through these initiatives, SEFA plays a pivotal role in advancing the government's objectives of job creation and poverty alleviation within the country.

**Table 3.2: Small Enterprise Finance Agency Performance Indicators**

Target	2013/2014		2014/2015	
	Number	R' Million	Number	R' Million
Youth-Owned	10 291	157	16 419	292
Women-Owned	44 303	362	66 668	484
Rural Based	36 729	429	59 581	636
Black-Owned	43 643	529	52 962	954

Source: Small Enterprise Finance Agency (2015).

The table above shows the information on targeted groups supported by SEFA between two financial periods 2013/2015 and 2014/2015. It is evident from the above data that

the number of borrowers increased sharply even though youth-owned businesses saw a marginal increase between the two financial years. Additionally, it is stickily impressive saw a 54% increase in financial support towards youth-owned businesses even though they remain the lowest funded segment of the targeted SEFA clients. The picture explained by the Data in the Table above proves that youth-owned businesses are still underfunded even though the government has charged these DFIs with a fresh mandate to inculcate youth entrepreneurs into their loan portfolio.

### **3.7.5 National Development Youth Service (NYDA)**

The National Youth Development Agency (NYDA) came into existence on 16 June 2009, resulting from the merger of Umsobomvu Youth Fund (UYC) and the National Youth Commission (NYC). This merger aimed to enhance youth development through comprehensive support and guidance (Chauke and Malatji 2022). Strategically positioned within the presidency, NYDA ensures effective coordination of its youth development programmes across all government spheres.

The rationale behind consolidating UYC and NYC into a unified institution stemmed from their historical lack of synchronized efforts in advancing youth development. The establishment of a singular youth development institution was deemed necessary to eliminate redundancy and enhance the effectiveness of initiatives targeting youth empowerment.

In the context of Development Finance Institutions (DFIs), it is crucial to clarify their role and significance in fostering youth development and entrepreneurship. Isa-Olatinwo (2021) defines DFIs as government-owned institutions designed to expedite the growth of entrepreneurial activities and sustain existing enterprises. Despite government majority ownership, DFIs maintain managerial autonomy, mitigating political interference while risking potential deviations from their original mandates through the commercialisation of operations (Mtsewu 2022).

### **3.8 Types of Entrepreneurship Education**

Entrepreneurial Education at Universities, Sustainable Development, and Youth Entrepreneurs

Entrepreneurial education in universities is increasingly recognised as pivotal in fostering sustainable development and enhancing the capacities of youth entrepreneurs. Universities are uniquely positioned to not only impart entrepreneurial skills but also to cultivate an entrepreneurial mindset that aligns with global sustainability goals. As economies face unprecedented challenges such as climate change, inequality, and digital disruption, entrepreneurial education has become a fundamental tool for empowering young people to address these challenges through innovative and sustainable business solutions (Hörisch, Schaltegger and Freeman 2020).

This discussion critically examines the role of entrepreneurial education at universities in driving sustainable development and empowering young entrepreneurs. It explores how higher education institutions can foster a culture of innovation, contribute to sustainability, and address the barriers that hinder the effectiveness of entrepreneurial education in promoting sustainable business practices.

### **3.8.1 Entrepreneurial Education in Universities**

Entrepreneurial education in universities has evolved from a focus on business creation to encompassing a broader approach that integrates creativity, innovation, and sustainability (Guerrero, Urbano and Gajón 2020). This shift reflects the changing nature of global economies and the increasing importance of sustainable development. Universities now play a critical role in equipping students with the knowledge, skills, and attitudes necessary to identify and exploit entrepreneurial opportunities in a manner that contributes to long-term social, environmental, and economic sustainability (Morland, Scott and Thompson 2021).

The integration of sustainability into entrepreneurial education has been driven by the recognition that businesses can no longer solely focus on profit maximization without considering their impact on society and the environment (Rosário, Raimundo and Cruz 2022). Entrepreneurial education today often emphasizes triple-bottom-line thinking, encouraging students to develop business models that balance financial performance with social equity and environmental protection (Bhandari, Ranta and Salo 2022). This shift reflects the growing awareness of the role that entrepreneurship plays in achieving the United Nations' Sustainable Development Goals (SDGs), particularly in areas such as poverty alleviation, clean energy, and responsible consumption and production (Friedland and Jain 2022).

### **3.8.2 The Link Between Entrepreneurial Education and Sustainable Development**

Sustainable development requires businesses to operate in a manner that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland 1987). Entrepreneurial education is critical in this regard, as it equips young entrepreneurs with the tools and mindset needed to develop innovative solutions to sustainability challenges. For example, universities are increasingly offering courses that focus on social entrepreneurship, green entrepreneurship, and sustainable business practices, thereby encouraging students to create ventures that contribute to the achievement of the SDGs (Fanea-Ivanovici and Baber 2022).

Entrepreneurial education can contribute to sustainable development by promoting an entrepreneurial mindset that values innovation, resilience, and adaptability (Souto, Brito and Pereira 2022). This mindset is essential in a rapidly changing world where businesses must constantly adapt to new challenges such as climate change, resource depletion, and social inequality. By fostering this mindset, universities can help young entrepreneurs develop sustainable business models that address these global challenges (Lopes, Gomes and Trancoso 2024).

However, there are challenges in aligning entrepreneurial education with sustainable development. Traditional business education often emphasizes competition, profit maximization, and individual success, which can be at odds with the values of sustainability (Diepolder, Weitzel and Huwer 2024). To address this, universities need to adopt a more holistic approach to entrepreneurial education that incorporates sustainability into the core curriculum and fosters collaboration, ethical decision-making, and social responsibility (Chopra, Modi and Kumar 2024).

### **3.8.3 The Role of Universities in Fostering Sustainable Entrepreneurship Among Youth Entrepreneurs**

Universities have a unique opportunity to influence the entrepreneurial journeys of young people by embedding sustainability into their entrepreneurial education programmes. This can be achieved through various initiatives such as incorporating sustainability into entrepreneurship curricula, promoting interdisciplinary learning, and

providing students with opportunities to engage in real-world sustainability challenges (Jimenez, Franco and Smith 2021).

One of the keyways in which universities can promote sustainable entrepreneurship is by offering experiential learning opportunities, such as internships, incubators, and social innovation labs, where students can apply their entrepreneurial skills to sustainability challenges. These initiatives allow students to develop practical solutions to real-world problems while gaining valuable experience in sustainable business practices (Rudhumbu, Du Plessis and Maphosa 2020).

In addition, universities can play a critical role in fostering a culture of sustainability by promoting values such as ethical leadership, corporate social responsibility (CSR), and environmental stewardship (Pathak and Muralidharan 2020). For example, many universities are now offering courses and programmes that focus on the intersection of entrepreneurship and sustainability, such as sustainable business management, environmental entrepreneurship, and social entrepreneurship (Olutuase, Brijlal and Yan 2023). These programmes encourage students to think beyond profit and to consider the broader impact of their ventures on society and the environment.

However, universities face several challenges in promoting sustainable entrepreneurship. One of the main challenges is the need to overcome the traditional business mindset that prioritizes short-term profits over long-term sustainability (Purbasari, Wijaya and Rahayu 2020). To address this, universities need to adopt a more interdisciplinary approach to entrepreneurial education that integrates knowledge from fields such as environmental science, sociology, and public policy (Balková, Lejsková and Ližbetinová 2022). This would enable students to develop a more holistic understanding of sustainability and its importance in entrepreneurship.

#### **3.8.4 Barriers to Effective Entrepreneurial Education for Sustainable Development**

Despite the growing recognition of the importance of sustainable entrepreneurship, there are several barriers that hinder the effectiveness of entrepreneurial education in promoting sustainable development. One of the main barriers is the lack of resources and institutional support for sustainability-focused entrepreneurship programmes (Kim, Choe and Kaufman 2019). Many universities face budget constraints that limit their ability to develop and offer sustainability-focused courses and initiatives.

Another barrier is the traditional focus of entrepreneurial education on profit maximization and competition, which can be at odds with the values of sustainability (Amrutha and Geetha 2020). Many entrepreneurial education programmes continue to prioritize individual success and financial performance, rather than encouraging students to consider the broader social and environmental impact of their ventures. To address this, universities need to adopt a more holistic approach to entrepreneurial education that emphasizes collaboration, ethical decision-making, and social responsibility (Bărbulescu, Nicolau and Munteanu 2021).

There are also cultural barriers that can hinder the effectiveness of entrepreneurial education in promoting sustainable development. In many societies, entrepreneurship is still seen primarily as a means of achieving individual success and financial independence, rather than as a tool for addressing social and environmental challenges (De Felice and Petrillo 2021). To overcome these cultural barriers, universities need to promote a broader understanding of entrepreneurship that emphasizes its potential to contribute to sustainable development and social change (Makoni and Chikobvu 2023).

### **3.8.5 Distinction between Entrepreneurship Education and Business Education**

Entrepreneurship education distinguishes itself from business education through its focus on equipping learners with the ability to generate diverse ideas for exploiting business opportunities and devising extensive action plans for entering the business realm (Ratten 2020). The key distinctions lie in the learner-centric approach of entrepreneurship education, utilizing all available information sources, considering learners as active producers, and employing project-based teaching methods. In contrast, business education adopts a teacher-oriented model, relying on teachers and textbooks as information sources, with core concepts delivered through traditional teaching methods (Hardie, Highfield and Lee 2020).

In entrepreneurship courses, students are guided through idea generation, business planning, capital resource acquisition, and the management of start-ups and small businesses (Di Paola, Meglio and Vona 2024). Small business management programmes focus on providing students with the necessary skills for managing and operating small businesses post-start-up, covering goal-setting, leadership, planning, organising, and controlling from a small business perspective. The distinction is further

emphasised by Hassan (2024), stating that entrepreneurship concentrates on functional management skills required for starting, managing, and developing small businesses, while small business management relies on the personal capabilities of individuals leading the business.

### **3.8.6 Entrepreneurial Training vs Entrepreneurship Education**

Entrepreneurship education aims to enable students to assimilate and develop knowledge, skills, and values to address a broad range of problems, while entrepreneurship training focuses on developing specific knowledge or skills for effective performance (Sharma 2022). The study conducted by Yan, Huang and Xiao (2023) indicate a positive correlation between higher education levels and increased entrepreneurial activities, suggesting that education plays a crucial role in promoting entrepreneurial involvement among young adults. Bilderback (2024) further highlights the potential of the education system in enhancing entrepreneurial engagement among young adults.

### **3.8.7 The Impact of Entrepreneurship Education on Youth Entrepreneurship**

Entrepreneurship education extends beyond teaching students to become independent business owners; it involves creating a learning environment that nurtures entrepreneurial traits and behaviour (Omeje, Jideofor and Ugwu 2020). Floris and Pillitu (2019) emphasises the importance of instilling entrepreneurial skills from childhood through primary-level schooling. While there has been important investment in entrepreneurial education, evidence supporting its benefits remains limited (Perić, Oberman Peterka and Getoš 2020).

Higher education institutions are considered optimal for entrepreneurship training, serving as breeding grounds for societal innovation (Barbini, Corsino and Giuri 2021). Entrepreneurship not only facilitates start-up creation but also contributes to mindset changes and the development of entrepreneurial orientation (Mignenan 2021). It enhances the perceived feasibility of entrepreneurial endeavours by increasing students' knowledge base, building confidence, and promoting self-efficacy. Additionally, entrepreneurship education fosters an entrepreneurial culture, influences career choices, and raises awareness of entrepreneurship's contribution to communities and society as a whole (Zhu and Wang 2022).

Young South African adults with tertiary education exhibit higher chances of identifying opportunities and starting new businesses, emphasising the pivotal role of education in fostering entrepreneurship (Maziriri, Nyagadza and Chuchu 2023). It is asserted that every nation has a responsibility to develop the next generation of potential entrepreneurs through practical orientation and greater vocational relevance in entrepreneurial learning. Adeniyi (2023) underscores the crucial role and need for entrepreneurial education and training, emphasising the connection between theory and action and between learning and doing. Foyolle and Klandt conclude that enterprising behaviours can indeed be taught.

According to Iwara and Kilonzo (2022), entrepreneurship education has three main objectives:

- To increase the understanding of entrepreneurship amongst the students. The universities or the education system should help to create a more entrepreneurial character amongst the students by providing a deep understanding of the risks and rewards of entrepreneurship. It is crucial to expose the students to entrepreneurship so that their thinking, reasoning and opportunity-based acting can be developed and cherished.
- To equip the students for the world of work. The students should be taught to take full responsibility for their lives and careers. According to Rajak and Dolan (2022), entrepreneurship education is an important tool to prepare students for the global marketplace, and it should be universally available to provide all students with the opportunity to explore and fulfill their potential. According to Bakker and McMullen (2023), the education system needs to prepare students thoroughly to succeed and to assume leadership positions for the new global marketplace.
- To prepare students to act and behave as entrepreneurs. The educational system has traditionally inhibited the development of entrepreneurial qualities because it taught young people to obey, reproduce facts and engage in wage employment after finishing their education. According to Adera and Abdisa (2023), there should be a directive from the government to teach entrepreneurship in all tertiary institutions so that it can assist students to be productive members of their societies. According to Ameen, Madichie and

Anand (2023), successful entrepreneurs have a set of personal skills, attributes and behaviour that goes beyond that which is purely commercial, and they contribute something of benefit to the community.

### **3.9 University Business Incubators (UBI)**

A University Business Incubator (UBI) operates within the broader category of Business Incubators (BIs), encompassing public, private, and university-based typologies. The general definition, as proposed by Hu, Ahmad and Lu (2023), characterises a UBI as a university-affiliated institution providing support to young business start-ups through a range of tangible and intangible services. This definition aligns with Barbut (2021) perspective, emphasising that university incubators, equipped with an incubation system, offer physical spaces within the university premises to foster the development of university spinoffs.

Approximately one-third of all Business Incubators are located within universities and college campuses, serving as effective platforms for collaboration, network creation, and the generation of added value within the entrepreneurial ecosystem (Vardhan and Mahato 2022). The focus on both tangible and intangible services within a university context underscores the comprehensive support that UBIs provide to nascent businesses, encompassing not only physical infrastructure but also knowledge resources and networking opportunities. This holistic approach aligns with the evolving role of universities in driving entrepreneurship and economic development (Mu and Zhao 2024).

#### **3.9.1 Partnership between Business Incubators, Entrepreneurship, and University**

The intricate relationships between universities, entrepreneurship, and Business Incubators (BIs) form a complex web that fosters the development of innovative concepts. This section delves into the detailed examination of these relationships, focusing on the connections between BIs and entrepreneurship, universities and entrepreneurship, and the intricate link between BIs and universities.

Leitão, Pereira and Gonçalves (2022) observe that the relationship between business incubators and entrepreneurship has been extensively explored. identified a roadmap

for incubators, emphasising factors such as the entrepreneurial climate, commercialising technologies, employment, and innovation. These factors underscore that entrepreneurship is a strategic outcome of BIs. Additionally, Leitão, Pereira and Gonçalves (2022) asserted that incubators serve as valuable resources for new entrepreneurs, offering solutions to their challenges. Leitão, Pereira and Gonçalves (2022) emphasised the critical role of incubators in nurturing entrepreneurial spirit and providing comprehensive assistance to new entrepreneurs across various facets.

The dynamic relationship between universities and entrepreneurship plays a pivotal role in nurturing an entrepreneurial mindset among students and shaping entrepreneurially-oriented individuals (Hakim, Sukimi and Ab Rahman 2024). Universities contribute importantly to industrial and economic growth by promoting research culture and providing socially-oriented education (Ravichandran and Dixit 2024).

The crucial link between BIs and universities, exemplified by University Business Incubators (UBIs), creates a dynamic environment fostering innovation and entrepreneurship. UBIs, as defined by (Máté, Estiyanti and Novotny 2024), represent university-based institutions providing tangible and intangible support for young business start-ups. Approximately one-third of BIs are situated within universities and college campuses, serving as effective hubs for cooperation, networking, and the creation of added value within the entrepreneurial landscape (Budac and Ilie 2024).

### **3.9.2 Link between Universities and Entrepreneurship (Entrepreneurial Universities)**

The link between universities and entrepreneurship results in a relationship known as entrepreneurial universities. Entrepreneurial education in universities has evolved importantly, contributing to the creation of entrepreneurial attitudes and inducing the formation of new firms. The purpose of university entrepreneurial education encompasses fostering innovation, economic growth, and motivating individuals to become entrepreneurs.

Empirical evidence suggests that universities need to be more entrepreneurial and innovative, with incentives for those involved in entrepreneurship support being crucial for success. Shifting royalty distribution formulas in favour of faculty members and

modifying improvement and ownership guidelines can contribute to greater efficiency in technological transfer and entrepreneurship (Iwara 2023). The concept of the entrepreneurial university emerged as universities evolved from conservative academic contexts to entities integrating economic development and social progress with academic mission programmes (Tang and Zhang 2023).

Entrepreneurial universities play a crucial role in knowledge transfer and technology exchange with industry, fostering innovation and economic growth. Entrepreneurial education, whether formal or focused on entrepreneurial behaviour, contributes to the training of individuals and recognises universities' direct or indirect contributions to economic revenues. Cultivating entrepreneurship in universities involves monitoring the impact of entrepreneurial support on graduates' behaviour and the business activities of the university community (Chen and Salleh 2024). The entrepreneurial university concept aligns with a societal shift toward recognising universities as key players in economic development and innovation.

### **3.9.3 Link between Business Incubators and Universities**

Universities have experienced a paradigm shift, actively contributing to economic growth and social development by embracing new missions and relationships (Saaida 2023). The integration of innovation and entrepreneurship within the academic sphere is encapsulated by the concept of entrepreneurial universities. Abulibdeh, Zaidan and Abulibdeh (2024) emphasises the imperative of generating knowledge for competitiveness and sustainable development, reflecting a global trend where public administrations emphasise knowledge strategies. This integration is often referred to as the knowledge triangle or the triple helix model, highlighting collaboration between academia, industry, and government.

Khizar, Iqbal and Rasheed (2021) underscore the critical role of universities in reinforcing students' entrepreneurship and identifying the profiles of the most entrepreneurially oriented students. Entrepreneurial education at the university level is considered pivotal for facilitating the process of new business creation. Khizar, Iqbal and Rasheed (2021) shed light on the evolving role of universities, emphasising a socially oriented perspective in education and promoting a research culture to enhance industrial

and economic growth. To facilitate knowledge transfer to industries, universities have initiated various initiatives, including the establishment of university incubators. Kadarisman, Wijayanto and Sakti (2022) observed a shift in recent universities from basic research as a public service towards profit-oriented endeavours, with industries and businesses becoming the primary beneficiaries of university resources. The success of university-industry collaboration is evident in Taiwan, where over 70% of R&D resources are held by universities, contributing to innovative ideas and inventions that drive industrial implementation (Kadarisman, Wijayanto and Sakti 2022).

The benefits of Business Incubators (BIs) are highlighted by Jiang and Zhou (2024), emphasising increased job opportunities, additional revenue, and prosperity resulting from new businesses. Abdulai and Issahaku (2024) study in Kenya establish a link between economic growth and BIs, even though a gap exists between services provided and client expectations. Owen, Vedanthachari and Hussain (2024) study illustrates financial returns from incubators, while López-Mora and Ortíz-Villajos (2024) demonstrate the influential role of BIs in entrepreneurship and gender dynamics in Spain. Brazilian studies reveal the relative success of incubators due to benchmarking, strong monitoring, and tenant progress evaluation.

Joshi and Chawla (2024) confirm the positive impact of BIs on job creation, and Güler, Atan and Adalı (2024) analyses BIs in the USA, revealing evidence of job creation and economic impact. The European report on research and innovation emphasises the collaborative role of universities, industry, and the public sector in the triple helix model. Mahboub and Ghanem (2024) research in Pakistan underscores the vital role of BIs in generating SMEs, creating jobs, and generating revenues in local communities.

#### **3.9.4 Relationship between Business Incubators and Entrepreneurial Universities**

The intersection of entrepreneurship and education has gained important attention, leading to the identification of "entrepreneurial universities" based on their engagement in entrepreneurship training (Pittz and Hertz 2018). The concept of the entrepreneurial university has emerged as a result of the transition from a conventional academic context to one that integrates economic development with research and teaching (Guerrero, Urbano and Gajón 2020).

Wan and Lv (2021) characterize entrepreneurial universities by diverse strategies encompassing innovation, proactiveness, and an organisation's risk behaviours. Wan and Lv (2021) emphasise that fostering entrepreneurial activities within universities requires effective knowledge and technology transfer between the academic and industrial sectors. The findings of their study revealed that entrepreneurial education positively impacts the development of essential skills, including problem-solving, opportunity identification, motivation, and students' eagerness to engage in entrepreneurial pursuits (Wan and Lv 2021).

Thomas and Asheim (2022) explore variables influencing students' intention at universities to start a business, emphasising the important relationship between the intention to start a business and individual skills linked with safety, autonomy, and technology orientation. University graduates, with their creativity, play a crucial role in economic growth, making it essential to mobilise them for entrepreneurial careers, enhance their entrepreneurial competencies, and support business start-ups (Belousova, Groen and Sutormina 2024).

Public policy in OECD countries stimulates innovative approaches by universities, supporting entrepreneurial activities. Entrepreneurial universities need strategies for training and supporting different skills in students, encouraging them to start their businesses. The next section will highlight the establishment of new companies as a basic objective of supporting entrepreneurship at universities through creating innovative entrepreneurial mindsets.

### **3.9.5 Role of University Business Incubators in Supporting Entrepreneurship**

Entrepreneurship encompasses various aspects such as commercialization, innovation, and competitiveness. University Business Incubators (UBIs) play a crucial role in supporting these aspects of entrepreneurship. Economic growth in society is closely linked to innovation, commercialization, and entrepreneurship (Nordin, Siti-Nabiha and Kamalia 2019). UBIs serve as promotional tools for economic development and job creation, contributing to entrepreneurs' performance in both developed and developing countries.

According to Padayachee (2019), entrepreneurship is associated with innovations and

the commercialization of university human capital, contributing to technological innovation and economic growth. UBIs provides a platform for creating and commercializing innovative methods and entrepreneurial ideas, bridging the gap between research and practical applications (Padayachee 2019).

University incubators extend their role beyond traditional education and research, playing a pivotal role in fostering innovation, cultivating an entrepreneurial mindset, enhancing organisational development, leadership, and improving societal living standards (Ali, Irfan and Salman 2020). UBIs contributes to the development of an entrepreneurial society by providing mechanisms such as research contracts, licenses, and spinoffs.

Saraireh (2021) highlights UBIs as the most effective type of incubators, particularly benefiting student entrepreneurs. UBIs provide valuable connections with businesses and offer an environment conducive to establishing and growing ventures. (Paoloni and Modaffari 2022) identify four basic categories needed by university incubators to support entrepreneurs: human, financial, organisational, and technological resources.

University incubators aim to develop commercialization by setting up spin-offs to intensify research promotion, innovative ideas, commercialization activities, and developing entrepreneurs (Diaz-Gonzalez and Dentchev 2022). The role of university incubators extends beyond providing services to start-ups; they also support leadership development and reinforce an entrepreneurial culture.

UBIs serve as catalysts for economic growth, innovation, and job creation. They play a crucial role in transforming knowledge into commercially viable products and services, contributing to the competitiveness of universities and the overall economy. The collaborative efforts of universities, business incubators, and entrepreneurial education create a synergistic ecosystem that fosters entrepreneurship and drives societal progress.

### **3.10 Sustainable Development metrics in youth entrepreneurs**

Sustainable development metrics are vital for assessing the contributions of youth entrepreneurs to economic, social, and environmental sustainability. As the global

economy grapples with challenges such as climate change, inequality, and resource depletion, there is a growing emphasis on integrating sustainability into entrepreneurial ventures (Singh, Tang and Ogunseitan 2020). For youth entrepreneurs, understanding and applying these metrics is crucial to creating businesses that not only thrive financially but also contribute positively to society and the environment (Issever Grochová and Litzman 2021).

This discussion critically analyses various sustainability metrics relevant to youth entrepreneurs and explores their applicability in different entrepreneurial contexts. It also delves into the challenges youth entrepreneurs face in adopting these metrics and how they can overcome them to ensure that their ventures contribute to the broader goals of sustainable development.

### **3.10.1 Economic Sustainability**

Economic sustainability metrics are critical in evaluating the long-term viability and growth of entrepreneurial ventures. These metrics focus on financial performance, resource efficiency, and innovation, ensuring that businesses are economically viable while also contributing to sustainable development (Cricelli and Strazzullo 2021). One of the key metrics in this category is profitability, which assesses the financial health of a business. Profitability is not only about generating income but also about managing resources efficiently and investing in sustainable practices (Dangelico and Pujari, 2020). For youth entrepreneurs, profitability serves as a measure of their ability to sustain operations and reinvest in their ventures to drive long-term growth (Zakaria, Aoun and Liginlal 2021).

Another important economic metric is innovation. Rai, Rai and Singh (2021) posit innovation as a factor that measures the extent to which young entrepreneurs introduce new products, services, or processes that contribute to sustainability. Innovation is crucial for young entrepreneurs as it enables them to differentiate their businesses in a competitive market while addressing sustainability challenges such as resource scarcity and climate change. By fostering innovation, youth entrepreneurs can create value not only for their businesses but also for society and the environment (Rai, Rai and Singh 2021).

However, youth entrepreneurs often face challenges in balancing profitability with sustainability. Many youth entrepreneurs operate in resource-constrained environments, making it difficult to invest in sustainable practices that may not yield immediate financial returns (Li, Voorneveld and de Koster 2022). To overcome these challenges, youth entrepreneurs need to adopt a long-term perspective that recognises the economic benefits of sustainability, such as increased customer loyalty, reduced operational costs, and access to new markets (Veselova and Sidorenko 2022).

### **3.10.2 Social Sustainability**

Social sustainability metrics focus on the impact of entrepreneurial ventures on society, including aspects such as job creation, community engagement, and social equity (Widyawati 2019). For youth entrepreneurs, social sustainability is particularly important as it reflects their ability to create positive social change through their ventures. One of the key metrics in this category is job creation, which measures the number of jobs generated by an entrepreneurial venture (Alsayegh, Rahman and Homayoun 2020). Youth entrepreneurs play a critical role in addressing youth unemployment by creating opportunities for themselves and others (Munyuki and Jonah 2022). This metric is crucial for evaluating the social impact of entrepreneurial ventures, particularly in developing countries where unemployment is an important challenge (Wasim and Rehman 2022).

Another important social sustainability metric is community engagement, which assesses the extent to which young entrepreneurs involve local communities in their business operations and decision-making processes (Spânu, Ulmeanu and Doicin 2024). Community engagement is essential for building trust, fostering collaboration, and ensuring that entrepreneurial ventures contribute to the well-being of local communities (Purnamasari 2024). For youth entrepreneurs, community engagement can also provide valuable insights and resources that enhance the sustainability and success of their ventures (Jayadatta, Kumar and Gangadhar 2024).

However, social sustainability metrics can be challenging for youth entrepreneurs to implement, particularly in the early stages of their ventures (Adeola 2024). Many youth entrepreneurs lack the resources and networks to effectively engage with local communities or create important social impact (Gangiah 2024). To address these challenges, youth entrepreneurs need to leverage partnerships with local organisations,

government agencies, and other stakeholders to enhance their social impact and ensure that their ventures contribute to broader social goals (Máté, Estiyanti and Novotny 2024).

### **3.10.3 Environmental Sustainability**

Environmental sustainability metrics assess the impact of entrepreneurial ventures on the natural environment, including factors such as resource efficiency, energy use, and waste management (Yacob, Wong and Khor 2019). For youth entrepreneurs, environmental sustainability is critical to ensuring that their businesses operate in a manner that minimises negative environmental impacts and contributes to the preservation of natural resources (Darus, Mohd Zuki and Yusoff 2020). One of the key metrics in this category is resource efficiency, which measures the extent to which businesses use resources such as water, energy, and raw materials efficiently and sustainably (Kubera 2024).

Energy use is another important environmental sustainability metric, particularly for youth entrepreneurs who operate in industries that rely heavily on energy consumption (Udeagha and Muchapondwa 2023). By adopting energy-efficient practices and investing in renewable energy sources, youth entrepreneurs can reduce their environmental footprint and contribute to global efforts to combat climate change (Karlilar, Balcilar and Emir 2023). Additionally, waste management metrics assess the extent to which businesses minimize waste generation and implement recycling and waste reduction initiatives (Nhleko, Msomi and Ogunsola 2023).

However, youth entrepreneurs often face important challenges in implementing environmental sustainability metrics, particularly in resource-constrained environments where access to sustainable technologies and practices may be limited (Babar and Tahir 2024). To overcome these challenges, youth entrepreneurs need to adopt a proactive approach to sustainability that prioritises environmental stewardship and innovation (Derdabi and Dvouletý 2024). This may involve seeking out partnerships with organisations that specialize in sustainability, as well as leveraging government incentives and support programmes that promote environmental sustainability in a business (Ghalwash and Ismail 2024).

### **3.10.4 Applicability of Sustainable Development Metrics to Youth Entrepreneurs**

The applicability of sustainable development metrics to youth entrepreneurs is influenced by various factors, including the nature of their ventures, the industry in which they operate, and the availability of resources and support systems (Diaz-Sarachaga and Ariza-Montes 2022). One of the key factors influencing the applicability of these metrics is the size and scale of the entrepreneurial venture. For small and early-stage ventures, implementing comprehensive sustainability metrics can be challenging due to limited financial resources and capacity (Liu, Jiang and Zhang 2023). However, even small ventures can adopt basic sustainability metrics, such as resource efficiency and community engagement, to enhance their sustainability performance and contribute to broader development goals (Lange, Rezepa and Zatrochová 2024).

The industry in which a youth entrepreneur operates also plays a significant role in determining the applicability of sustainability metrics. For example, entrepreneurs in sectors such as renewable energy, waste management, and sustainable agriculture are more likely to adopt environmental sustainability metrics, as these industries are closely aligned with sustainability goals (Gopi and Subramoniam 2024). On the other hand, entrepreneurs in traditional industries such as manufacturing and retail may face greater challenges in implementing sustainability metrics, particularly if they operate in regions with limited access to sustainable technologies and practices (Idris 2024).

The availability of resources and support systems is another critical factor influencing the applicability of sustainability metrics to youth entrepreneurs. Entrepreneurs who have access to financial resources, mentorship, and government support are more likely to adopt sustainability metrics and implement sustainable business practices (Ajiva, Ejike and Abhulimen 2024). For example, government programmes that provide financial incentives for sustainability initiatives, such as tax breaks for energy-efficient technologies or grants for social entrepreneurship projects, can help youth entrepreneurs overcome the financial barriers to implementing sustainability metrics (Ogunyemi and Ishola 2024).

While sustainable development metrics are essential for assessing the contributions of young entrepreneurs to sustainability, their applicability is not without challenges. One of the main challenges is the difficulty in measuring and quantifying social and

environmental impact, particularly for small and early-stage ventures (Das, Konietzko and Bocken 2022). Unlike financial performance, which can be easily measured using traditional accounting metrics, social and environmental impact is often more difficult to quantify and requires the use of specialized metrics and indicators (Roomi, Saiz-Alvarez and Coduras 2021). For youth entrepreneurs, this can be particularly challenging, as they may lack the resources and expertise to effectively measure and report on their social and environmental impact (Miran and Gültekin 2024).

Another challenge is the lack of standardisation in sustainability metrics, which can make it difficult for youth entrepreneurs to compare their performance with that of other businesses (Hoogendoorn, Van der Zwan and Thurik 2019). While there are various sustainability frameworks and guidelines, such as the Global Reporting Initiative (GRI) and the United Nations Sustainable Development Goals (SDGs), there is no universally accepted set of sustainability metrics that apply to all businesses (Trautwein 2021). This lack of standardisation can create confusion for young entrepreneurs and make it difficult for them to assess their sustainability performance and communicate it to stakeholders (Mansouri and Momtaz 2022).

In addition to these challenges, there is also the issue of competing priorities for youth entrepreneurs, who may be more focused on achieving short-term financial success than on implementing sustainability metrics (Cantú, Aguiñaga and Scheel 2021). For many young entrepreneurs, the primary goal is to ensure the survival and growth of their business, which may take precedence over sustainability considerations (Suriyankietkaew, Krittayaruangroj and Iamsawan 2022). However, youth entrepreneurs need to recognise that sustainability and financial success are not mutually exclusive, and that adopting sustainability metrics can contribute to long-term business success by enhancing their reputation, reducing operational costs, and opening up new market opportunities (Sarma, Attaran and Attaran 2024).

To address these challenges, there is a need for greater support and education for youth entrepreneurs on the importance of sustainability metrics and how to implement them effectively (Ivasciuc and Ispas 2023). This includes providing access to resources, training, and mentorship on sustainability, as well as creating more standardized and accessible sustainability metrics that are tailored to the needs and capacities of young entrepreneurs (Carpio 2023). Additionally, policymakers and other stakeholders need

to play a more active role in promoting sustainability among youth entrepreneurs by providing incentives, support programmes, and recognition for businesses that adopt sustainability metrics and practices (Pricopoaia, Lupaşc and Mihai 2024).

Sustainable development metrics play a crucial role in assessing the contributions of youth entrepreneurs to sustainability and ensuring that their ventures contribute to broader economic, social, and environmental goals. While these metrics are essential for evaluating sustainability performance, their applicability is influenced by various factors, including the size and scale of the entrepreneurial venture, the industry in which the entrepreneur operates, and the availability of resources and support systems. Youth entrepreneurs face important challenges in implementing sustainability metrics, including the difficulty of measuring social and environmental impact, the lack of standardization in sustainability metrics, and competing priorities for financial success. However, with greater support, education, and incentives, youth entrepreneurs can overcome these challenges and adopt sustainability metrics that contribute to the long-term success of their ventures and to global efforts to achieve sustainable development.

### **3.11 Conclusion**

There was overwhelming agreement that entrepreneurship contributes positively to the economic growth of the country. However, other researchers caution that different countries yield different results, depending on whether they are developing or developed. For entrepreneurial intention and activities in both developing and developed countries, it was established that all developed countries are in innovation-driven economies while developed countries are all in efficiency-driven economies. The factors that influence the development of entrepreneurs were highlighted as demographic, personality, personal and micro-social factors. The institutions of higher learning alone cannot influence the behaviour of potential entrepreneurs. The government has a crucial role to play in creating a conducive business environment for fostering potential entrepreneurs.

The following chapter will outline the research methodology, it will cover the population and location of the study, data collection strategies, research design and methods, research philosophy, research approach, sample and sampling methods.

## **CHAPTER FOUR: RESEARCH METHODOLOGY**

### **4.1 Introduction**

Having thoroughly reviewed the literature on youth entrepreneurship, sustainable development, and general entrepreneurship, this chapter delves into the research methodology. This critical section provides a scientific framework for the study, outlining the methods employed to derive proven facts. The research methodology serves as a clear roadmap, detailing the sequences involved in conducting the research and offering a rationale for the study's findings. This chapter also explores key pillars of research methodology, including research design, research strategy, sampling, data analysis, and ethical considerations.

### **4.2 Research Philosophies**

Research philosophy is the foundational methodology that guides a study toward a specific philosophy, aiding in generating the most suitable answers to the study's inquiries (Boon and Van Baalen 2019). This study explores two main research philosophies: positivism and interpretivism.

#### **4.2.1 Positivism**

Positivism, also known as objectivism, adopts a neutral stance, minimizing the researcher's influence on study outcomes (Creswell and Creswell 2017). It focuses on visible and easily assessable objects, emphasising objectivity. Positivist researchers view external factors as influential in shaping social phenomena (Bell, Bryman and Harley 2018). This philosophy aligns with the belief that organisations adhere to specific beliefs, values, and behaviours inherent to their environment. However, positivism's rigidity, especially in measuring everything, may disregard incomprehensible phenomena (Ivankova and Wingo 2018). To address this, interpretivism complements positivism by adding value to aspects disregarded by

positivism, allowing respondents to freely express their inner views.

#### **4.2.2 Interpretivism**

Interpretivism, founded on symbolic and phenomenological interactionism, explores how researchers understand the world around them and emphasises participants' perspectives (Apuke 2017). It reduces the mismatch between the researcher and the researched phenomenon, fostering an inclusive understanding. Interpretivism allows participants to express personal views without fear, making it beneficial for investigating the role of young entrepreneurs in sustainable development.

While interpretivism offers an inclusive understanding, it may pose challenges in terms of validity and reliability (Chang, Van Witteloostuijn and Eden 2020). To mitigate this, a mixed-methods approach, combining positivism and interpretivism, was adopted for triangulation of study findings.

#### **4.2.3 Realism**

Realism, reflecting common sense views of the world, presents two forms: empirical and critical realism. Empirical realism focuses on information development through appropriate techniques, while critical realism acknowledges the potential bias in human understanding of reality (Eden and Nielsen 2020). Realism, however, may not be suitable for this study due to potential biases in understanding the changing business environment.

#### **4.2.4 Pragmatism**

Pragmatism, centred on solving problems practically, provides a diverse methodological approach to addressing research challenges (Hennink, Hutter and Bailey 2020). Pragmatism's inclusive worldview and acceptance of various methodologies make it suitable for a mixed-methods approach. This study adopts pragmatism, which allows the use of qualitative and quantitative approaches to achieve comprehensive research objectives. The selection of research philosophy depends on the nature of the study, and a pragmatic approach that combines positivism and interpretivism offers a

comprehensive understanding of the role of youth entrepreneurs in sustainable development.

#### **4.4.5 Rationale for the Choice of Pragmatism**

The selection of the research philosophy plays a crucial role in shaping the study's approach. In this context, pragmatism emerges as a fitting choice, driven by its focus on problem-solving within predictable situations (Osuagwu 2020). Pragmatism, as a worldview, aims to illuminate meaning and address problematic issues by integrating qualitative and quantitative methods (Walliman 2021).

##### ***Pragmatism and Mixed Methods***

The pragmatic approach embraces mixed methods, allowing the study to draw in-depth insights from both qualitative and quantitative realms. This integration mitigates biases associated with a singular method and aligns with the philosophy of pragmatism (Raju and Prabhu 2019). Pragmatism, especially in social and management sciences, has gained credibility for its ability to incorporate both numerical and non-numerical data (Bell, Bryman and Harley 2022).

##### ***Addressing Objectives and Research Questions***

The adoption of pragmatism is well-founded in its ability to accommodate diverse methods for examining the role of youth entrepreneurs in the sustainable development programme at the Durban University of Technology (DUT). Creswell and Clark (2017) assert that pragmatism can yield exceptional results by integrating various approaches into data collection, enhancing the reliability and trustworthiness of findings.

##### ***Pragmatism in Social and Management Sciences***

Pragmatism's inclusion of both non-numerical and numerical data aligns with the complexities of social and management sciences (Ormerod 2021). Its use of conceptual guidelines facilitates the application of mixed methods, ensuring a robust combination in data analysis and collection (Prasad 2021).

##### ***Strengthening Reliability and Trustworthiness***

The pragmatic approach, known for its inclusive worldview, offers a comprehensive understanding by allowing the use of different perceptions, expectations, and methods

for data collection, analysis, and interpretation (Jones 2022). This combination strengthens the reliability and trustworthiness of the study's outcomes. Pragmatism, with its focus on problem-solving and integration of diverse methods, serves as an apt choice for this study. It aligns objectives and research questions, provides a balanced approach to data collection, and enhances the reliability and trustworthiness of the study's findings.

### **4.3 Research Design**

Research design serves as a roadmap, outlining how a researcher investigates research questions, including plans for sampling, study limitations, and ethical considerations (Leavy 2022). It is a blueprint that defines variables, their inter-relationships, and tactics used in the study.

#### **4.3.1 Exploratory Research Design**

Exploratory research design is employed to understand contextual information and describe the research problem's provisions (Martelli and Greener 2022). It is useful when there is limited past data, and it provides a theoretical concept of the research problem. While it may not offer solid answers, exploratory research lays the groundwork for future research, enhancing the researcher's understanding of the problem.

#### **4.3.2 Relational Research Design**

Relational research design examines the association between two or more variables (Walliman 2021). It studies existing variables in a population or group, exploring their relationships. For instance, studying the proportion of doctors and nurses working in urban or rural areas involves relational research.

#### **4.3.3 Speculative Research Design**

Speculative design involves suggesting alternative visions without losing resistance to reality (Fellows and Liu 2021). It explores different possibilities while remaining grounded. Speculative design facilitates divergence between context, beliefs, and methods, offering space for imaginative alternatives (Connaway and Radford 2021).

#### **4.3.4 Descriptive Research Design**

Descriptive research is a meticulous and precise depiction of the realities and characteristics of a given population or area of interest (Coates 2021). It involves presenting an accurate account of the characteristics of a specific individual, situation, or group, aiming to discover new meanings, describe existing phenomena, determine the frequency of events, and categorize information (Hiebl 2023). Descriptive research is a method of observation that naturally captures aspects of a situation as they occur (Marlow 2023).

Creswell and Creswell (2023) characterise descriptive research as an approach to discovering associations or relationships between selected variables. According to Creswell and Creswell (2023), descriptive research answers questions based on ongoing events of the present. These diverse definitions collectively provide a comprehensive understanding of the purposes of descriptive research, encompassing the depiction of characteristics, observation of occurrences, and the exploration of relationships between variables.

#### **4.3.5 Explanatory Research Design**

Explanatory research is conducted to help the researcher establish a problem that has not been studied in-depth before (Eden and Nielsen 2020). Unlike descriptive research, explanatory research aims to comprehend the problem more efficiently and adapt to new data and insights during the study period. It does not provide definite evidence but assists in understanding the problem more deeply (Lo, Rey-Martí and Botella-Carrubi 2020).

#### **4.3.6 Predictive Research Design**

Predictive research design involves mining data from datasets to find trends and patterns to forecast future outcomes and trends (Mweshi and Sakyi 2020). While not exact science, predictive analytics enables organisations to project future trends and behaviours based on identified patterns.

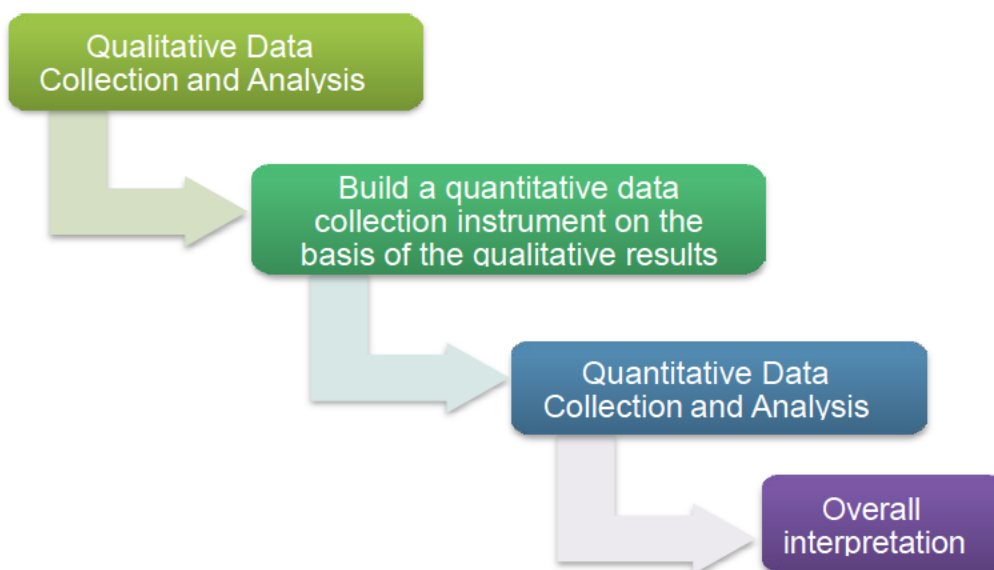
### 4.3.7 Evaluation Research Design

Evaluation research, or programme evaluation, focuses on achieving specific research aims rather than prescribing a particular research methodology (Chang, Van Witteloostuijn and Eden 2020). It involves the systematic valuation of the value or importance of time, money, effort, and resources invested to accomplish a goal.

### 4.4 Rationale for the Choice of Exploratory Research Design

The study employed a mixed-methods approach, integrating both qualitative and quantitative research. The decision to start with qualitative research, specifically using an interview schedule, aligns with the nature of exploratory research. Qualitative methods, being unstructured and open-ended, inform the development and implementation of a subsequent quantitative survey (Nelson 2020). This sequential approach allows for the probe of social contexts and informs the design of structured survey questions aiming to gather in-depth knowledge and hunches that can be tested using a quantitative research approach. Although this study involved human interactions, it did not comprise experiments or collecting sensitive personal information from youth entrepreneurs. It observed ethical research standards (Mason, 2002) and obtained ethical approval from the DUT Institutional Research Ethics Committee.

**Figure 4. 1:** Sequential Exploratory Research Design



**Source:** Creswell and Plano Clark (2017)

**A sequential exploratory research design:** in relation to the nature of this study, it was imperative to adopt a sequential exploratory research design as a questionnaire could only be developed once specific themes have emerged through a qualitative method. The themes then paved the way for developing relevant questions for the main study which was a quantitative study. The reasoning behind the first phase of utilising the qualitative research was to assess whether youth entrepreneurs possess skills to administer the operational performance of their business; to examine the efficiency of the entrepreneurs as to whether they can adopt appropriate measures to facilitate business performance against business risk mitigation; to analyse whether managers can spot and utilize business opportunities; to establish if actions exhibited by the managers or operators has contributed to poverty reduction, and to evaluate the ability of the business owners on how to adopt governing principles for carrying out managerial responsibilities.

#### **4.5 Research Strategy**

Research strategy serves as a systematic plan, providing a roadmap for researchers to conduct studies efficiently and on schedule, ultimately producing quality results and detailed reports (Halperin and Heath 2020). Various components of research strategies, including surveys, case studies, action research, grounded theory, ethnography, and combined research strategies, play essential roles in guiding researchers through the study. In this study, survey (positivist) and case study (phenomenological) research strategies were utilised.

##### **4.5.1 Positivist Research Strategy**

Survey, a positivist research strategy, involves collecting data from participants through their responses to a questionnaire (Connaway and Radford 2021). This strategy accommodates various methodologies for recruiting participants, collecting data, and employing numerous instruments. In this study, the survey under a positivist research strategy aimed to obtain information describing participants' characteristics within the larger target population of youth entrepreneurs.

#### **4.5.2 Phenomenological Research Strategy**

Case study, a qualitative research methodology, provides tools to study intricate phenomena within their contexts (Hiebl 2023). Chosen for its relevance to answering broad "how" and "why" questions, the case study strategy allowed an in-depth inquiry into participants' behaviour in real time. It covered contextual conditions relevant to the phenomenon under study, capturing the personal opinions, feelings, and views of participants regarding the role of youth entrepreneurs in the sustainable development programme.

#### **4.5.3 Combined Research Strategies**

A combined research strategy involves integrating both quantitative and qualitative research methods (Almanasreh, Moles and Chen 2019). This approach allows for a more comprehensive understanding of the research problem than using either approach alone. The study's choice of mixed methods, or a combined research strategy, facilitated triangulation, employing multiple means to study the same phenomenon and providing a more precise understanding through diverse observation points, methods, and techniques.

#### **4.5.4 Rationale for the Choice of Combined Research Strategy**

The mixed study, or combined research strategy, was deemed relevant for its ability to benefit from both qualitative and quantitative research, compensating for the weaknesses inherent in each approach. Triangulation enabled by mixed methods, allowed the study to approach the research problem from various perspectives, ensuring a more robust and comprehensive analysis.

### **4.6 Population, Sample, and Sampling**

#### **4.6.1 Target Population**

The target population for this study comprised 786 youth entrepreneurs aged 18 to 35 at DUT.

## **4.6.2 Sample Size**

The sample size was determined considering the optimal size for generalizability, with a sample of 253 chosen based on Morgan's sample size table and the 95% confidence level.

## **4.6.3 Sampling Procedures**

Sampling methods were divided into probability and non-probability sampling. Probability sampling, applied in this study, involves drawing a representative sample from the entire population, providing greater control and accuracy over the subjects of interest. The sampling frame, obtained from various sources, incorporates a complete list of units from which the sample is drawn.

Sampling is a valuable and cost-effective tool that saves time, ensures accuracy, and allows for statistical manipulations on smaller datasets, ultimately reducing human errors in data analysis. Two main categories of sampling methods, probability and non-probability, provide flexibility in choosing the most suitable approach for the study (Bougie and Sekaran 2019).

### **4.6.3.1 Probability sampling**

According to McNabb (2017), with probability sampling, the likelihood of any one member (or element) of the population being selected, is known. Probability sampling is based on a random selection of respondents and exists within a quantitative paradigm. Flynn and Korcuska (2018) state that non-probability sampling is non-random, but arbitrary and subjective. In non-probability sampling, the exact number of observations in the population is unknown, with the result that the likelihood of selecting any member/element of the population is not known.

According to Ivankova and Wingo (2018), researchers use simple random sampling because each observation remaining in the population has the same probability of being selected for the sample. Sheard (2018) states that probability sampling includes simple random sampling, stratified random, cluster, and systematic sampling:

- Simple Random Sampling – every member of the population has an even chance and likelihood of being selected.
- Stratified sampling – the populace is split into interest organisations or strata by way of the research team, in keeping with a not unusual feature, after which the research crew conducts a random sample from inside each group.
- Cluster Sampling – this is a variation of stratified sampling and involves two levels; that is, dividing the population into geographic regions and choosing units or people in the selected geographic regions for a random pattern; and
- Systematic Sampling – is a type of probability sampling method in which sample members from a larger population are selected according to a random starting point and a fixed periodic interval (Sovacool, Axsen and Sorrell 2018).

#### **4.6.3.2 Non-probability sampling**

A non-probability sampling approach can be used to sample the populace. In non-probability sampling, not every unit of the population is guaranteed to be included in the sample and examples are haphazard/convenience, quota, purposive/judgmental, snowball and maximum variation (Ivankova and Wingo 2018):

- Convenience sampling is generally known as careless, unsystematic, accidental or opportunistic sampling. The researcher selects certain units convenient to him/her. It requires no pre-planning for the selection of items. In using convenience sampling the researcher only concentrates on readily available respondents (Flynn and Korcuska 2018);
- Quota sampling combines the features of purposive sampling and stratified sampling. Under quota sampling, field workers include only those units that conform to certain specified parameters in the sample. Each field worker is assigned quotas of the number of units to include according to one or more characteristics (Belotto 2018).

- Judgement sampling involves the selection of a group from the population based on available information. It can also be the selection of a group by intuition based on criteria deemed to be self-evident (Braun and Clark, 2016); and
- In snowball sampling, members are sampled and then asked to help identify other members to sample, and this process continues until enough samples are collected (Wegner, 2016).

#### **4.6.4 Application of simple random sampling in this study**

For the purposes of this study, the probability sampling method was used, as this sampling method utilises some form of random selection. The population utilised for the research was youth entrepreneurs registered as students at DUT. The recommended sample size for this study was obtained from the generalised scientific guidelines for sample size decisions, developed by Krejcie and Morgan (1970, as cited in Sekaran & Bougie, 2016). By applying this model to the total population of members, who consisted of about 786 members, a sample size of 253 was recommended.

The 253 youth entrepreneurs were chosen using a simple random sampling method whereby computer-generated random numbers were used to select the sample. If any numbers were repeated, those numbers were not considered. According to Bristowe, Selman and Murtagh (2015), simple random sampling provides the researcher with a sample that is inclusive of the population under investigation, assuming that there is limited missing data. Moreover, Glaser and Strauss (2017) explain that simple random sampling allows us to make generalisations from the sample to the population, as the observations selected for inclusion in the sample are chosen using probabilistic methods. Thus, this is advantageous because such generalisations are more likely to have external validity.

## **4.7 Data Instrumentation and Collection Process**

### **4.7.1 Questionnaire**

The primary data on the impact of the ethical values of SME owner-managers on the performance of their enterprises in the study area were collected using a self-administered questionnaire (Annexure C). Questionnaires are written instruments for obtaining information from sample respondents, chosen for their ability to ensure comparability, increase speed and accuracy, facilitate data processing, and maintain economic efficiency in terms of time and money (Creswell and Creswell, 2017).

The questionnaire, divided into sections aligning with the study's objectives, covered basic personal information and aspects related to youth entrepreneurship and sustainable development. Pre-tested among ten youth entrepreneurs to remove ambiguity, the closed-ended questions were adapted from questionnaires used in similar studies. A mix of dichotomous, multiple-choice, and Likert scale questions were included, totaling 35 questions. The questionnaires were emailed to 217 youth entrepreneurs at DUT.

### **4.7.2 Interviews**

In addition to the structured questionnaire, in-depth interviews were conducted to gather more comprehensive insights. Interviews, categorized as structured, semi-structured, or unstructured, were employed to complement survey-style research (Sovacool, Axsen and Sorrell 2018). This study utilized semi-structured interviews, allowing for specific questions while offering flexibility for probing and clarification.

An interview schedule (Annexure D) guided the process, and appointments were made with 10 owner-managers based on questionnaire responses. The semi-structured interviews were aimed at covering critical issues requiring further clarification and in-depth information. Recorded using an MP3 recorder, the interviews were transcribed for analysis.

#### **4.7.2.1 Semi-structured Interviews**

The semi-structured interview technique was chosen for its flexibility, allowing for the emergence of new questions during the process. Questions were constructed based on areas in the questionnaire requiring clarification. The interviews were conversational, allowing the researcher to explore complexities and elicit participants' subjective interpretations. A degree of flexibility proved crucial in accommodating participants' interests and willingness to elaborate further.

### **4.8 Data Analysis**

#### **4.8.1 Qualitative**

Nvivo 12-plus software facilitated qualitative data analysis, organising themes and sub-themes abstracted from interview responses. The software assisted in establishing word frequencies, key patterns, and connections between themes, contributing to a comprehensive qualitative analysis. The use of NVivo 12 Plus with SPSS version 28 allowed the researcher to go deeper into their data and find insightful information (Walliman 2021). Combining the two can improve the research's rigour and depth by enabling triangulation of findings and a more thorough comprehension of the subject. By providing capabilities for effective data storage, exploration, and visualisation, it simplifies the qualitative research process (Hiebl 2023).

#### **4.8.2 Quantitative**

Data analysis involved descriptive and inferential statistics. Descriptive statistics, including frequency distribution tables, histograms, and pie charts, summarised and presented information. Inferential statistics, specifically Pearson's chi-squared test, examined relationships between demographic variables and sustainable development. The results, processed using SPSS Version 28, were presented through graphs and tables.

### **4.9 The Pilot Study**

A pilot study, conducted among ten randomly selected respondents within the study

area, served as a trial run to pre-test research instruments and identify any ambiguities. The results indicated two ambiguous questions, leading to their rephrasing. The average time to complete the questionnaire was found to be 15 minutes, and the research instrument was deemed aligned with the objectives. Participants in the pilot study were not included in the final sample of 253.

#### **4.10 Validity and Reliability in Quantitative**

##### **4.10.1 Validity**

Validity, the degree to which an instrument measures what it is intended to measure, ensures the accuracy and truthfulness of research results (Taherdoost 2016). In this study, statistical validity was emphasised, employing a pre-test or pilot study to identify and rectify any flaws within the quantitative questionnaire. The statistical validity assessment focused on ensuring that the instrument covered all inferential statistics relevant to specific variables of interest.

##### **4.10.2 Reliability**

Reliability, associated with the consistency of scores and the replicability of results, was evaluated using Cronbach's alpha as a measure (Sekaran and Bougie 2016). Cronbach's alpha, a test reliability technique, provided a single test administration estimate of the instrument's reliability. The mixed methods approach allowed for triangulation, combining numerical and non-numerical data for a comprehensive analysis. Reliability, essential for the consistency and repeatability of results, was interconnected with validity, ensuring the instrument measured the intended outcomes.

#### **4.11 Principles of Trustworthiness and Authenticity in Qualitative Research**

##### **4.11.1 Credibility**

Credibility in qualitative research emphasises accurate and authentic research findings worthy of acceptance (Bolarinwa 2015). The study ensured credibility through meetings with experts, data decryption among team members, and a series of evaluations to verify collected data. The research strategy involved making research methods transparent and audible, addressing any concerns of influence.

#### **4.11.2 Transferability**

Transferability refers to the potential for extrapolation of research findings (Bryman and Bell 2015). The study conducted tests to confirm the transferability of its findings, creating links between the analysis and existing works. A qualitative data classification method was employed to enhance transferability, ensuring the findings could be effectively compared and transferred to similar research conducted in comparable domains.

#### **4.11.3 Dependability**

Dependability, focusing on the stability of data under different conditions over time, was utilized as a substitute for reliability in qualitative studies (Halcomb and Hickman 2015). The research design, documentation of statistical evaluation methods, and transparent decision-making processes contributed to the dependability of the study's findings.

#### **4.11.4 Conformability**

Conformability refers to the degree to which results can be confirmed or corroborated by others (Bhattacharjee, 2013). The criterion emphasises confidence that research findings are shaped by participants' narratives rather than researcher biases. Confirmability ensures that the study's findings are participant-driven, reducing potential researcher influence.

#### **4.11.5 Authenticity**

Authenticity centres on the relevant purpose of research, recognising its intended value (Lyon 2015). The study aimed for objective value, considering the benefits to multiple stakeholders and accounting for diverse perspectives. Through interviews, observations, and statistical processing, the study minimized bias and ensured participant clarity on sought ideas, enhancing the authenticity and usability of results.

#### **4.12 Limitations of the Study**

Research inherently comes with limitations, and uncontrollable threats to validity. Some limitations are common to quantitative research (Sreejesh 2014). The study focused on the role of youth entrepreneurs in the sustainable development programme at DUT, limiting the generalization of results to other youth entrepreneurs in different areas.

Time and resource constraints restricted the study to 500 youth entrepreneurs at DUT, excluding a comprehensive representation.

Trust-building with participants posed a challenge. A consent letter clarified the study's purpose, and advice to recruit trustworthy participants facilitated trust. However, gaining trust is an ongoing process.

Three months were spent to get the study approved. Interviews were delayed because various departments questioned the validity of the study.

#### **4.13 Ethical Considerations**

Ethical considerations in business research encompass harm to participants, informed consent, anonymity, confidentiality, risk assessment, and permission letters.

##### ✓ Harm to Participants

The study ensured no legal, physical, psychological, emotional, social, or economic harm to participants. Exclusive interview locations and removing potentially harmful questions during the pilot study addressed this.

##### ✓ Informed Consent

Informed consent, vital for ethical research, was facilitated through consent letters explaining the study's purpose. Participants, even those who couldn't read, signed to signify agreement.

##### ✓ Anonymity and Confidentiality

Anonymity was maintained by not revealing participants' names or identification numbers. Confidentiality was safeguarded through permission forms, specifying authorized usage procedures.

##### ✓ Risk to Respondents

The study, categorized as minimal risk, adhered to ethics level two guidelines, ensuring no physical or mental harm to participants.

#### ✓ Permission Letter

A well-crafted permission letter, outlining the study's intention and potential benefits, was sent to DUT IREC. Participants' contributions were voluntary, with ethical clearance number (140/21 see Annexure A) obtained from the DUT Institutional Research Ethics Committee.

Ethical considerations are crucial for safeguarding participants and upholding research integrity. The study followed ethical guidelines, addressing potential harm, obtaining informed consent, ensuring anonymity, and maintaining confidentiality.

#### **4.14. Conclusion**

This chapter studied the research methodology in detail. The sequential outline of various content for each concept of this chapter was as follows; a definition for each concept was provided, various research concepts were demonstrated, and a specific methodology for a specific concept was then chosen and justified of its relevancy to the study. The most prominent research methodology for which was outlined in this chapter was a mixed study. This chapter has been able to highlight both research methodologies' strengths and weaknesses. The core directive of this chapter was a discussion that focused on the study's adoption of pragmatism as the appropriate philosophy. The target population and sample size were demonstrated based on the sampling table by Sekaran and Bougie. The logic behind adopting both sampling strategies and types of sampling was scrutinised and justified. Validity, reliability, trustworthiness, and credibility were properly assured in the study including ethical considerations.

Other elements that were discussed in this chapter include the limitations of the study as well as how those limitations were overcome. The next chapter presents the results and analysis of the findings.

## **CHAPTER FIVE: DATA PRESENTATION AND ANALYSIS**

### **5.1 Introduction**

This chapter gives an analysis and discussion of the research results. The previous chapter discussed the design and research methodology to ensure data collection performance. The chapter provides insights into how data was analysed using various methods. Using the data collected, this section will answer the research objectives, and the ideas considered in the first chapter.

The SPSS 28 version was used as a key data analysis tool, and the results are presented in the form of frequency tables, bar charts, histograms and pie charts to improve their comprehension. The questions were closed ended; it contained binary and Likert scale scores of 5 points, reliability and certainty were measured in the Cronbach alpha method. A variety of relevant mathematical tools, including correlation matrix, linear regression and chi-square test, were used to analyse and interpret data collected from participants to identify important patterns and relationships between research objectives and questions.

### **5.2 Response Rate**

The questionnaire was administered by the researcher individually, taking into account the recommendations of Boparai, Singh and Kathuria (2018) that personally administered questions should be given considerable time to achieve a near 100% response rate. A high response rate of 253 out (1195 completed questionnaires) was achieved. The findings of empirical research are presented, analysed and discussed below in the order of questions in the research tool.

### **5.3 Reliability Testing**

Brace (2018) hypothesized that reliability reflects the degree of robustness and stability of a measuring instrument over multiple recurring scales.

Dos Santos, Riner and Henriques (2019) define reliability as the rate at which they will

produce the same results at different times, or the extent to which the same observations will be made by different researchers at different times. Dos Santos, Riner and Henriques (2019) point out that reliability is related to level measurements where estimates have no random or unstable error, and that reliable tools can be used with certainty that temporary features and conditions do not interfere. Dörnyei and Dewaele (2022) note that there are many different coefficients of reliability. The common coefficient is Cronbach's alpha, which is based on the intermediate correlation within the material when the material is standard. When a reliable coefficient below 0.50 is considered unacceptable, if it falls between 0.50 and 0.60 it is considered important, and if it exceeds 0.70, it is considered positive. In this study, Cronbach's alpha was 0.829.

Table 5.1: Reliability analysis

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
0,829	32

Cronbach's alpha score of 0.829 was recorded on all the statements/questions of the questionnaire. This highlights a good level (82.9%) of internal consistency in the questionnaire regarding all the items of the questionnaire.

#### **5.4 Quantitative Statistics**

According to Bloomfield and Fisher (2019), descriptive statistics is concerned with the descriptions or summaries of empirical data obtained for a group of individual units. Descriptive statistics are the most efficient means of summarising the characteristics of large sets of data (ibid.). Moreover, De Angelis and Grinstein (2020) point out that in an analysis of data, the researcher calculates one number or a few numbers that reveal something about the characteristics of large sets of data. In this section, the results are presented using descriptive statistics in the form of graphs, tables and charts for the quantitative data collected.

## 5.5 Demographic variables

### 5.5.1 Sector Analysis

**Table 5.2: Sector analysis**

Sector	Frequency	Percentage
Agriculture	40	15,81%
Manufacturing	27	10,67%
Construction	17	6,72%
Retailing, and Motor trade and Repairs services	5	1,98%
Wholesale commercial agents and allied services	29	11,46%
Catering and Accommodation	41	16,21%
Transport storage and communication	57	22,53%
Finance and business services	21	8,30%
Community and Personal services	16	6,32%
Total	253	100,00%

With 57 responses representing 22.53% of the whole sample, the sectoral study of youth entrepreneurs at the Durban University of Technology (DUT) shows that the

Transport, Storage, and Communication sectors had the most presence. This suggests that young entrepreneurs find great appeal in this industry, most likely because of its reduced entrance requirements and rising demand in a metropolitan environment like Durban. With 41 responders (16.21%), the catering and accommodation industry follows closely, indicating the attraction of Durban as a travel destination, which naturally generates hotel business. While Manufacturing and Construction have somewhat low involvement, with 10.67% and 6.72% respectively, sectors such as Agriculture (15.81%) and Wholesale Commercial Agents and Allied Services (11.46%) exhibit considerable participation. This implies that youth would view these sectors as needing large cash and technological knowledge, which could discourage them even with possible prospects there. At 1.98%, Retailing, Motor Trade, and Repairs Services had the lowest presence, perhaps in response to market saturation or competition from more established companies.

The results link up with the empirical data recorded by Moon and Yin (2020), who noticed that youth entrepreneurs in underdeveloped nations are gravitating towards reduced entry-barrier industries such as transportation and communication. This fits the great involvement in several fields noted at DUT. But Imperiale, Fasiello and Adamo (2021) note that industries like Manufacturing and Construction call for large technical knowledge and capital expenditure, which perhaps helps to explain the low youth involvement in these sectors. Also, there are noted difficulties in areas such as agriculture, where youth involvement might be hampered by access to resources including land and technology, even if the sector is crucial for economic survival. High representation in accessible sectors and low engagement in capital-intensive sectors expose a trend whereby youth entrepreneurs are drawn into sectors that provide immediate opportunities with minimum resource requirements while sectors demanding important investment see less participation.

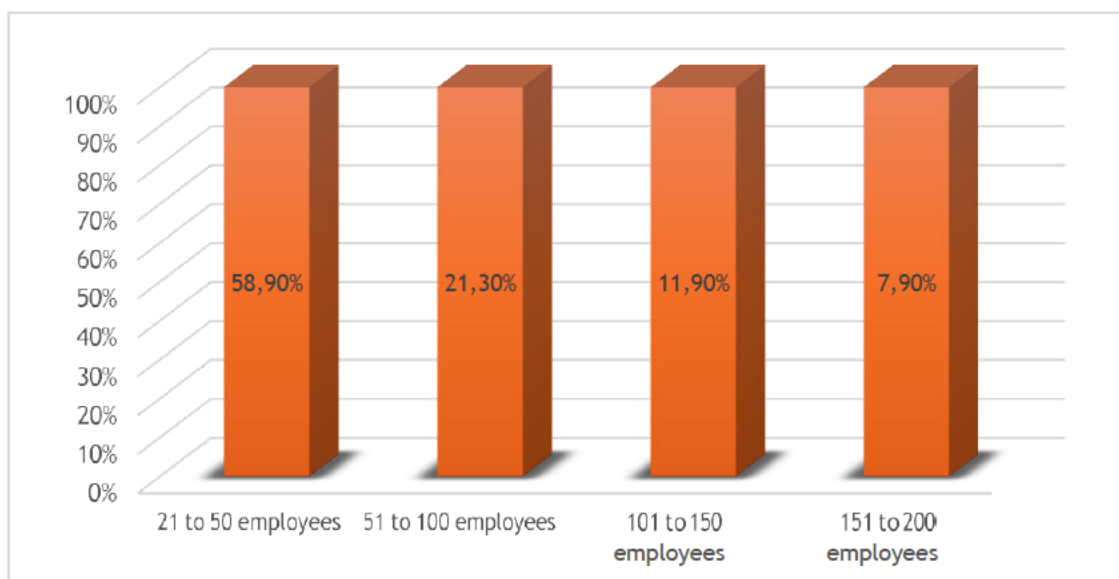
Given the contribution that agriculture makes to South Africa's economy, 40 respondents (15.81%) in the industry were engaged reasonably. This portrayal implies that some youth entrepreneurs regard agriculture as a desirable choice, maybe because of particular local factors or Durban's backing of agricultural projects. With 21 respondents (8.30%), Finance and Business Services had moderate participation percentage for a sector usually needing a high degree of financial awareness and capital availability. While

Wholesale Commercial Agents and Allied Services had 29 respondents (11.46%), showing a higher level of engagement than other service-oriented sectors, the Community and Personal Services sector recorded 16 respondents (6.32%), indicating a limited interest among youth entrepreneurs, maybe due to the niche character of this sector.

Studies like those by Christiaensen, Rutledge and Taylor (2021) show that perceived poor profitability and the physical demands of the task often restrict youth participation in agriculture, thereby influencing the role of youth entrepreneurs in the field. Nonetheless, the present results somewhat contradict this by indicating a noteworthy presence in the industry. This disparity can be attributed to the geographical elements in Durban that make farming more profitable for youth starting businesses. The little involvement in Finance and Business Services is also corroborated by the findings of Wurth, Stam and Spigel (2022), which stressed that the high degrees of knowledge and financial resources needed make youth frequently difficult to enter this industry. Therefore, even though sectors like banking and agriculture are necessary for economic development, focused assistance in these areas might enhance youth involvement and strengthen the financial position of these entrepreneurs in attaining sustainable development.

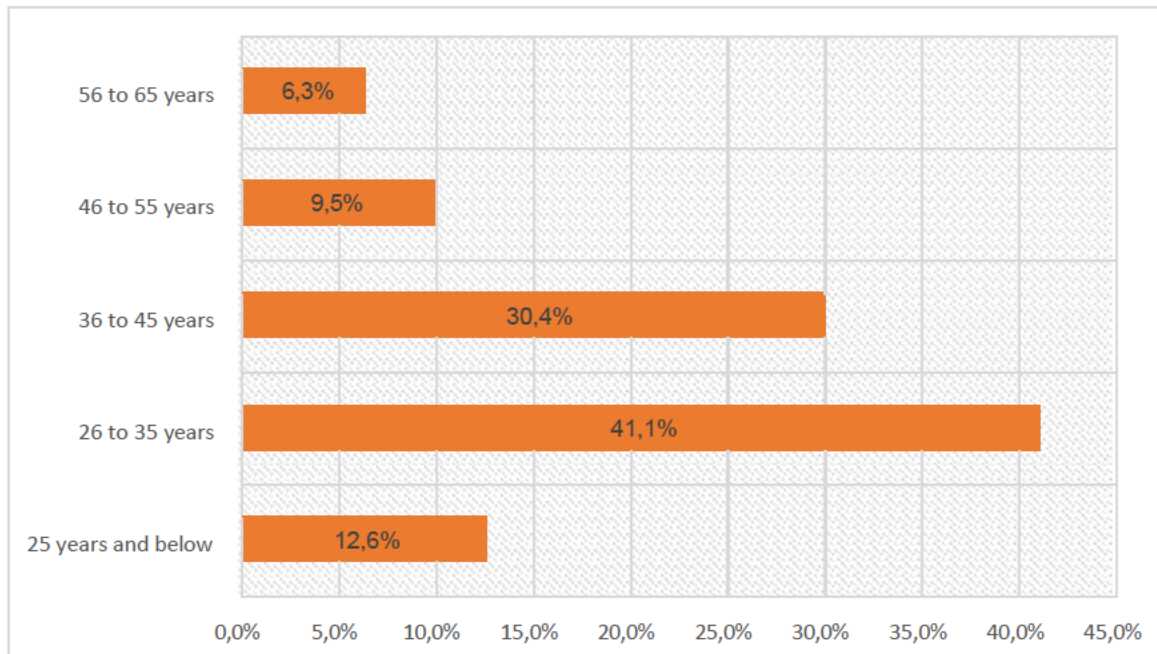
### 5.5.2 Number of full-time employees

**Figure 5.1: Full-time employees**



### 5.5.3 Age group

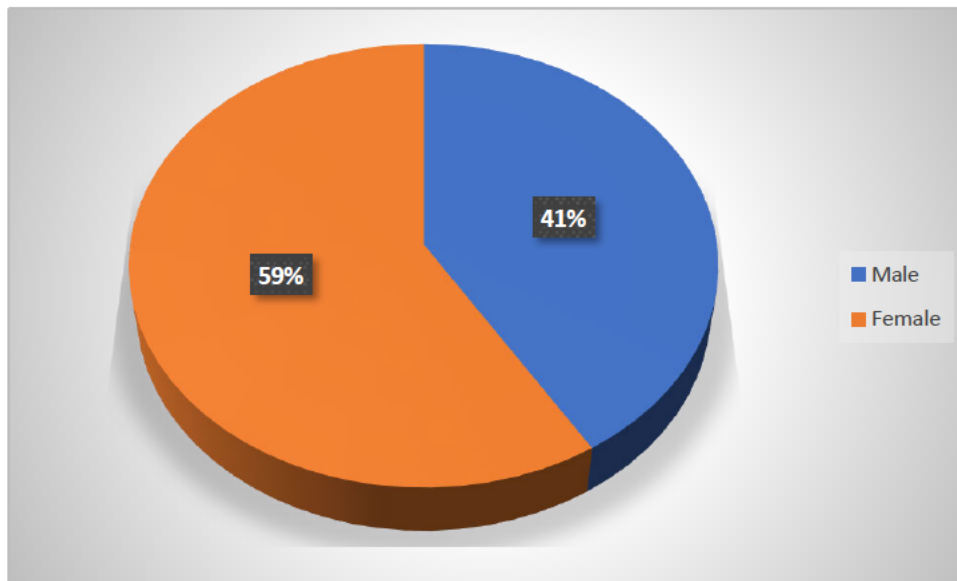
Figure 5.2: Age of respondents



The data indicates that the bulk of youth-led enterprises at the Durban University of Technology (DUT) employ between 21 and 50 employees, with 58.90% of these businesses falling within this range. This suggests that youth entrepreneurs manage a disproportionate number of small-to-medium enterprises (SMEs). Some youth entrepreneurs have been able to grow their operations beyond the initial phases, as evidenced by 21.30% of businesses with 51 to 100 employees. Nevertheless, a lesser proportion, 11.90%, have between 101 and 150 employees, and only 7.90% have 151 to 200 employees, suggesting a limited number of larger operations. The data overall indicates that the majority of youth-led businesses are relatively modest in scale. This may be indicative of the constraints that youth entrepreneurs encounter, such as restricted access to capital and resources, which are essential for the expansion of business operations.

## 5.5.4 Gender

**Figure 5.3 Gender of respondents**



The data provided indicates that out of the 253 respondents, 70 identified as male (40.9%) and 183 identified as female (58.5%). It is worth noting that the total percentage exceeds 100% due to rounding.

The gender distribution among the respondents was not equal, with a higher representation of female respondents as compared to male respondents. This distribution may reflect the gender composition of the student population at the Durban University of Technology (DUT) or the willingness of female students to participate in the study.

Previous studies have also examined the role of gender in entrepreneurship and sustainable development. This meta-analysis examined the relationship between gender and entrepreneurial success. The findings suggested that while women entrepreneurs face unique challenges and barriers, they have the potential to contribute importantly to sustainable development through their entrepreneurial activities. The study emphasised the importance of creating a supportive environment that addresses gender-specific issues and promotes gender equality in entrepreneurship.

This study explored the relationship between gender and sustainable entrepreneurship. It highlighted the positive impact of women's entrepreneurship on sustainable

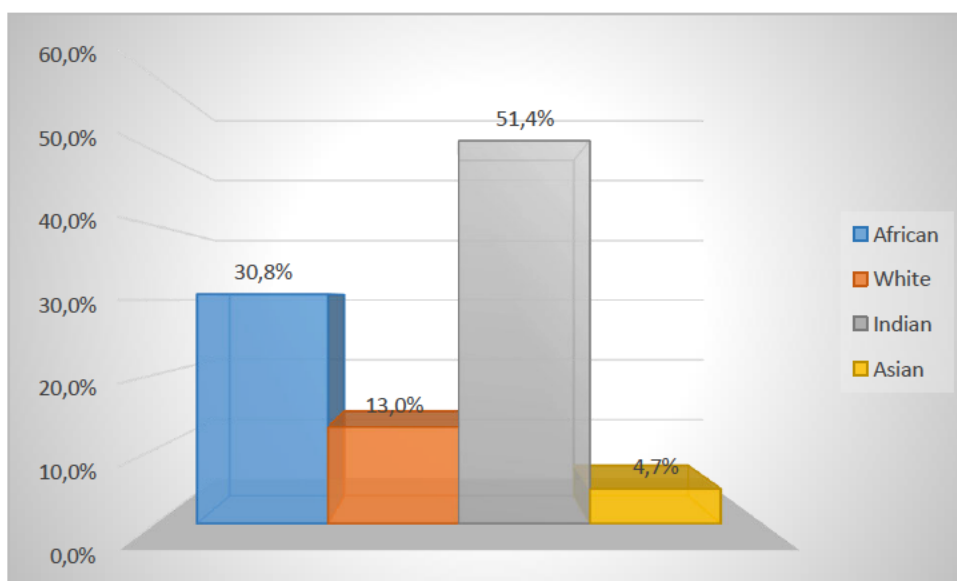
development, emphasising their focus on social and environmental responsibility. The study emphasised the need for policies and initiatives that promote gender equality and empower women entrepreneurs to drive sustainable change.

These two previous studies support the notion that gender plays an eminent role in entrepreneurship and sustainable development. They highlight the potential of both male and female entrepreneurs to contribute to sustainable development goals. However, they also recognise the unique challenges women entrepreneurs face and advocate for gender-inclusive policies and support systems to foster gender equality in entrepreneurship.

In the context of the present study at DUT, the higher representation of female respondents may indicate an active involvement and interest of female students in entrepreneurship and sustainable development initiatives. It suggests the need for tailored support and resources to empower female student entrepreneurs and promote gender equality in entrepreneurial endeavours.

### 5.5.5 Race

**Figure 5.4: Race**



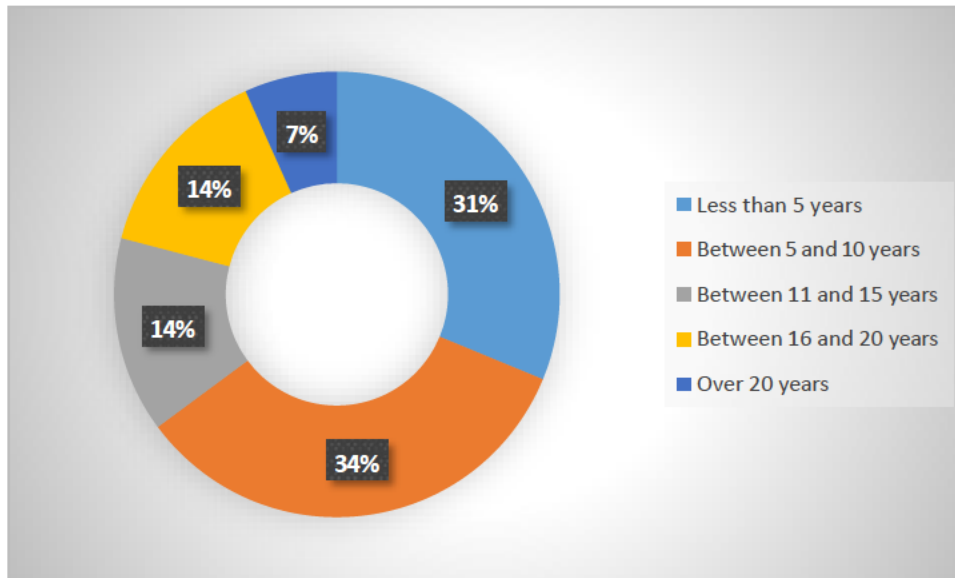
The racial demographics of youth entrepreneurs at the Durban University of Technology (DUT) show that Indian entrepreneurs make up the largest group at 51.4%, then followed

by African entrepreneurs at 30.8%, White entrepreneurs at 13.0%, and Asian entrepreneurs at 4.7%. This distribution indicates a pronounced over-representation of Indian entrepreneurs, suggesting that historical and socio-economic factors may influence this trend. The lower percentages of African and Asian entrepreneurs highlight potential barriers, such as limited access to education, funding, and mentorship opportunities, which could hinder their participation in entrepreneurship. This data emphasizes the importance of addressing disparities in resource access among different racial groups.

These findings correlate with existing empirical literature. Mkhonza and Sifolo (2021) highlight that race importantly influences access to resources within South Africa's entrepreneurial ecosystems, noting that Indian entrepreneurs often benefit from robust family networks that facilitate funding and mentorship. Conversely, Maduku and Kaseeram (2021) indicates that African entrepreneurs face systemic barriers, leading many to operate in informal sectors, which restricts their representation in formal entrepreneurship. Matekenya and Moyo (2022) provide a counterpoint, suggesting that government initiatives aimed at inclusivity can enhance opportunities for African entrepreneurs. These studies collectively underscore the need for targeted interventions to support underrepresented groups in the entrepreneurial landscape at DUT.

### 5.5.6 Business operation period

Figure 5.5: Duration period



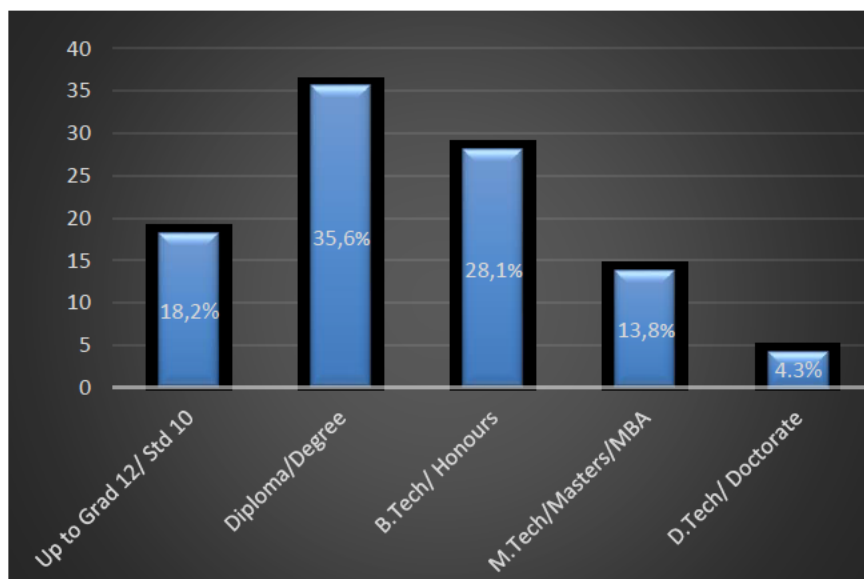
The duration of entrepreneurial experience among youth entrepreneurs at the Durban University of Technology (DUT) reveals that 31.2% have less than five years of experience, while 33.6% fall within the five to ten-year range. Those with eleven to fifteen years of experience account for 14.2%, and the same percentage applies to the group with sixteen to twenty years of experience. A small proportion, 6.7%, have over twenty years of entrepreneurial experience. This distribution indicates that the majority of youthful entrepreneurs are relatively early in their entrepreneurial journey, with approximately two-thirds having ten years or less of experience. This relatively low experience level may influence their capacity to navigate the challenges associated with business operations, including decision-making and risk management, potentially affecting their contributions to sustainable development initiatives.

The findings align with empirical studies that highlight the relationship between entrepreneurial experience and business success. For instance, Rungani (2022) argues that less experienced entrepreneurs often face higher levels of uncertainty and are more likely to encounter challenges in resource mobilization and market penetration. Conversely, the study by Mahaputra (2022) suggests that while experience is beneficial, the ability to adapt and innovate can often outweigh the advantages of experience, particularly in dynamic environments. This indicates that even youth entrepreneurs with

limited experience can succeed if they leverage their adaptability and access to supportive networks. Furthermore, Drewery, Truong and Fannon (2023) emphasises the importance of mentorship and training programmes in equipping youth entrepreneurs with the necessary skills, underscoring the need for initiatives that foster experiential learning and enhance the capacity of inexperienced entrepreneurs to contribute effectively to sustainable development goals.

### 5.5.7 Qualification of Respondents

**Figure 5.6: Education of respondents**



At Durban University of Technology (DUT), the educational credentials of youth entrepreneurs reveal that 18.2% have finished up to Grade 12 and 35.6% have a diploma or degree. With only 4.3% attaining a D-Tech or Doctorate, those with B-Tech or Honours qualifications make up 28.1%; 13.8% hold M-Tech, Masters, or MBA degrees. With nearly 77% of the youth entrepreneurs having qualifications above Grade 12, this distribution shows a noteworthy degree of educational attainment among them. Higher degrees of education seem to be connected to improved entrepreneurial capacity, thereby arming people with the tools and information required to negotiate the complexity of business. The low ratio of doctorates, however, points to a discrepancy in advanced academic participation in the entrepreneurial scene that might affect the potential for

creative ideas on sustainable development. The results point to more general patterns found in previous empirical research demonstrating a relationship between entrepreneurial performance and educational level. Highly educated people, for example, are more likely to implement creative business ideas and show more inclination for entrepreneurial activities (Zizile and Chimucheka 2018). Research findings from Mignenan (2021) further support this since they show that strategic thinking and problem-solving abilities qualities necessary for negotiating demanding corporate environments are much enhanced by educational background. On the other hand, the study of Joensuu-Salo, Viljamaa and Varamäki (2022) indicate that although education is vital, successful entrepreneurial ventures may also depend on practical experience and mentoring equally highly. Therefore, even while better educational qualifications among youth entrepreneurs at DUT are encouraging, a balanced strategy including practical training and mentoring could be essential in maximising their contributions to sustainable development efforts.

## 5.6 The Role of Youth Entrepreneurs in the Sustainable Development programme at DUT

### 5.6.1 The role of youth entrepreneurs

**Table 5.3: The role of youth entrepreneurs**

Statement	Very important	Important	Neutral	Unimportant	Very unimportant	Total
Youth entrepreneurs play a crucial role in fostering innovation and promoting sustainable business practices at DUT	58,5%	26,9%	7,5%	3,5%	3,6%	<b>100,0%</b>
The participation of youth Entrepreneurs enhances the university's capacity to contribute to	19,4%	62,1%	11,3%	3,6%	3,6%	<b>100,0%</b>

local economic development through sustainable entrepreneurship.						
Youth entrepreneurs contribute to solving real-world challenges by integrating sustainability into their business models and initiatives.	19,8%	27,3%	26,9%	22,5%	3,5%	<b>100,0%</b>
The involvement of youth entrepreneurs in sustainability programmes increases awareness of environmental, social, and economic sustainability on campus.	58,1%	27,3%	7,5%	3,6%	3,5%	<b>100,0%</b>
Youth entrepreneurs are pivotal in creating job opportunities and driving sustainable economic growth within the DUT community.	51,0%	26,5%	11,5%	7,5%	3,5%	<b>100,0%</b>
Youth entrepreneurs help bridge the gap between academic knowledge and practical sustainable development through their entrepreneurial ventures	43,1%	26,9%	15,4%	11,1%	3,5%	<b>100,0%</b>

The results of the survey on the involvement of youth entrepreneurs in the Durban University of Technology (DUT) sustainable development programme offer insightful analysis of their supposed contributions in numerous important spheres. With an additional 26.9% of respondents thinking this position is important, the first statement shows that 58.5% of respondents perceive youth entrepreneurs as being vital in supporting innovation and sustainable business practices at DUT. This strong backing implies that youth entrepreneurs are not only seen as providers of fresh ideas but also as essential change agents in the sustainability strategy of the university. The focus on innovation fits the results of Mtonga (2019), which show how youth entrepreneurs introduce new ideas that might challenge conventional business models and advance sustainability. With 19.4% evaluating the participation of youth entrepreneurs in improving the university's potential to contribute to local economic growth through sustainable entrepreneurship as extremely important and 62.1% as important, the next statement

evaluates this. This information shows a great awareness of the possible influence of entrepreneurial activities on the regional economy. Kattel, Drechsler and Karo (2022), who contend that youth entrepreneurship can result in major local employment creation and economic revitalisation, confirm that the recognition of youth-led businesses is vital to local economic development.

With 19.8% viewing this as extremely essential and 27.3% seeing it as important, the third statement emphasises how youth entrepreneurs help to solve practical problems by including sustainability in their company strategies. The mixed answers here show that although some value these contributions, there could be doubt over the efficiency of these programmes in tackling actual problems. This runs counter to the results of Lerner, Verheul and Thurik (2019), who contend that youth entrepreneurs frequently use creative ideas to directly address community issues. Different opinions could point to the need for better visibility and assistance for these projects to show their success.

When assessing the participation of youth entrepreneurs in raising awareness of environmental, social, and financial sustainability at the universities, 58.1% of respondents regard this role as very important and 27.3% as rather important. This important support shows that these business owners are regarded as major participants in raising environmental responsibility among their peers, hence cultivating a culture of sustainability. These result supports the belief that entrepreneurial activities can be instructive, in line with the studies of Ratten and Jones (2021) stressing the need for education in entrepreneurship.

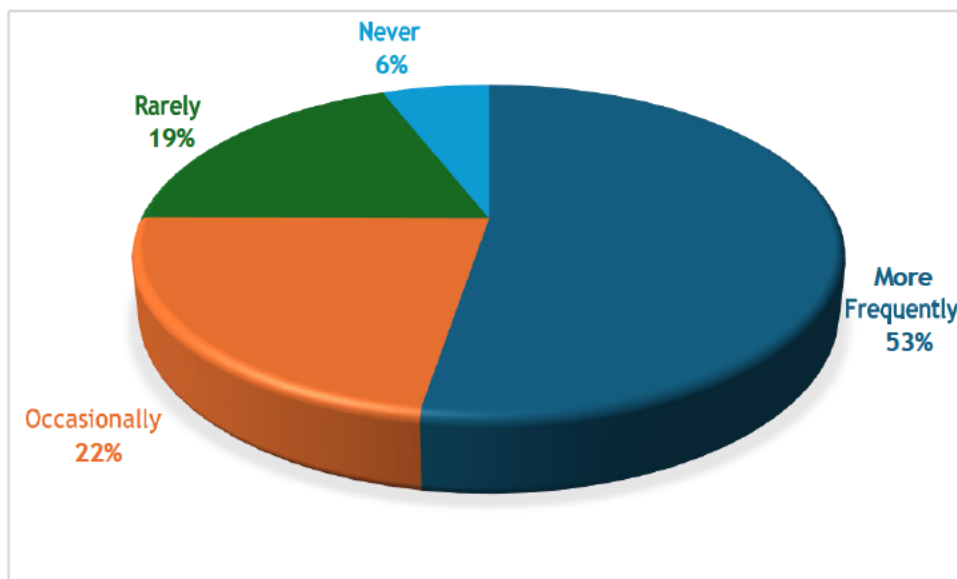
Receiving 51.0% approval as very important and 26.5% as important, the fifth statement that young student entrepreneurs are essential in generating job opportunities and supporting sustainable economic growth within the DUT community got support. This shows a strong awareness of the financial contributions provided by young-led businesses, so supports the idea that these kinds of projects are vital for promoting development and employment in the local setting. The results agree with empirical research showing a clear link between economic development and youth entrepreneurship.

Finally, the claim that youth entrepreneurs help close the gap between academic knowledge and real sustainable development got conflicting reactions: 43.1% of respondents thought it extremely important and 26.9% thought it rather important. This points to the value these business owners bring by using academic ideas in real-world environments. On the other hand, the important number of respondents who indicate no opinion would suggest that more work is required to properly highlight the connection between theory and practice. This is in line with the results of Pham and Le (2023), who stress the need for experience learning in entrepreneurship education.

The findings in general indicate the important part youth entrepreneurs at DUT play in promoting environmental awareness, economic growth, and invention. Though their contributions are appreciated, there is obvious evidence that opinions of their efficacy in addressing practical problems and linking academic and practical knowledge differ. Through focused projects and support, addressing these impressions will help to improve the general influence of youth entrepreneurship on sustainable growth inside the university environment.

### 5.6.2 Attendance of Youth Entrepreneurial Conferences

Figure 5.7: Attendance of Youth Entrepreneurial Conferences



The survey results regarding the attendance of youth entrepreneurial conferences reveal important engagement among the participants, with 52.6% indicating that they

attend these conferences more frequently. This high percentage suggests a proactive approach among youth entrepreneurs at the Durban University of Technology (DUT) in seeking opportunities for networking, skill development, and exposure to innovative ideas in entrepreneurship. The strong inclination towards frequent attendance aligns with the findings of (Yandi, Hermawan and Suharsono 2023), which emphasize the importance of networking and knowledge sharing in enhancing entrepreneurial competencies. Additionally, 22.5% of respondents reported attending these conferences occasionally, indicating that a substantial number of youth entrepreneurs recognize the value of such gatherings, even if they do not participate as regularly as their more active peers. This reflects a growing interest in entrepreneurial initiatives and highlights the potential for increased participation to foster collaboration and resource sharing among youth entrepreneurs, a sentiment supported by the work of Ahmad, Idrus and Rijal (2023), who found that participation in entrepreneurial events leads to enhanced innovation and business success.

The survey also reveals that 19.0% of respondents attend these conferences rarely, while 5.9% reported never attending. This indicates a small segment of youth entrepreneurs who may either be unaware of the opportunities presented by such conferences or lack the resources or motivation to participate. This finding raises concerns about accessibility and inclusivity within the entrepreneurial ecosystem, as those who do not attend may miss out on valuable insights and networking opportunities that could benefit their ventures. The challenges of participation for some entrepreneurs are echoed in the study by Hanifah, Purnomo and Dai (2024), which highlights that factors such as financial constraints and lack of information can hinder participation in entrepreneurial activities. Therefore, strategies to improve accessibility and awareness of entrepreneurial conferences are essential for maximizing engagement and fostering a more inclusive environment for all youth entrepreneurs at DUT.

## **5.7 The Determinants of sustainable development programme in youth entrepreneurial ecosystems**

**Table 5.4: The determinants of sustainable development programme in youth entrepreneurial ecosystems**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
The availability of funding and financial support is a key determinant of the success of sustainable development programmes in youth entrepreneurial ecosystems.	43,9%	41,1%	8,7%	2,8%	3,5%	<b>100,0%</b>
Access to mentorship and expert guidance importantly influences the effectiveness of sustainable development initiatives for youth entrepreneurs.	19,8%	48,2%	17,4%	11,1%	3,5%	<b>100,0%</b>
Networking opportunities and partnerships within the entrepreneurial ecosystem are crucial for advancing sustainable development programmes.	36,0%	26,5%	19,0%	15,0%	3,5%	<b>100,0%</b>
Educational resources and training specific to sustainability play a major role in the implementation and impact of development	56,5%	26,9%	8,7%	4,3%	3,6%	<b>100,0%</b>

Programs for youth entrepreneurs.						
Government policies and regulatory frameworks are important determinants in shaping the success of sustainable development programmes in youth entrepreneurial ecosystems.	48,2%	26,9%	12,6%	7,7%	4,6%	<b>100,0%</b>
The level of community engagement and support from local stakeholders is a critical factor in determining the effectiveness of sustainable development efforts in youth entrepreneurial settings.	26,1%	53,0%	11,8%	7,1%	2,0%	<b>100,0%</b>

The survey results reveal important insights regarding the perceptions of youth entrepreneurs at the Durban University of Technology (DUT) about various factors influencing sustainable development programmes. The statement regarding the availability of funding and financial support as a key determinant of success received high agreement, with 43.9% of respondents strongly agreeing and 41.1% agreeing. This overwhelming support indicates that a substantial majority of youth entrepreneurs recognize funding as critical for launching and sustaining their initiatives. Empirical studies consistently highlight the importance of financial resources in entrepreneurial success. For instance, a study by Tuan (2023) emphasizes that access to financial support enables youth entrepreneurs to scale their operations and engage in sustainable practices, ultimately contributing to economic growth. Conversely, only a

small percentage (2.8%) disagreed, suggesting that there is a consensus on the necessity of funding in entrepreneurial ventures aimed at sustainability.

The second statement, which pertains to the influence of mentorship and expert guidance on the effectiveness of sustainable development initiatives, garnered substantial support as well. Here, 19.8% strongly agreed and 48.2% agreed, reflecting the critical role that mentorship plays in shaping entrepreneurial outcomes. Access to mentorship has been linked to improved business performance, as highlighted by a study conducted by Salami, Tella and Badiru (2023), which found that mentorship not only enhances the skillset of youth entrepreneurs but also provides valuable industry insights that facilitate effective decision-making. The neutral response rate of 17.4% indicates that while many see the value of mentorship, there remains a portion of youth entrepreneurs who might not have experienced adequate mentorship support, underlining a potential area for improvement within the ecosystem.

Regarding the importance of networking opportunities and partnerships, 36.0% of respondents strongly agreed, and 26.5% agreed. This result aligns with findings by Agbim (2019), which demonstrate that networking can importantly enhance access to resources and market opportunities for young entrepreneurs. The acknowledgment of the importance of networking highlights the interconnectedness of various stakeholders within the entrepreneurial ecosystem, suggesting that collaborative efforts can foster sustainable development. The notable percentage of neutral responses (19.0%) may indicate varying levels of experience with networking opportunities, suggesting that while some youth entrepreneurs are actively engaged, others may face barriers to access.

When examining the statement concerning educational resources and training specific to sustainability, an impressive 56.5% of respondents strongly agreed, while 26.9% agreed. This strong endorsement highlights the vital role that education plays in equipping young entrepreneurs with the necessary knowledge and skills to implement sustainable practices effectively. The findings are corroborated by research from Ajibade and Mutula (2019), which emphasizes the need for targeted training programmes to enhance sustainability competencies among youth entrepreneurs. The lower percentages of disagreement (4.3% and 3.6%) suggest a widespread recognition of the importance of educational resources in driving sustainable entrepreneurship.

Government policies and regulatory frameworks also emerged as critical factors, with 48.2% of respondents strongly agreeing and 26.9% agreeing. These results indicate a strong belief among youth entrepreneurs that supportive government policies can foster a conducive environment for sustainable development. This aligns with research by Rammel et al. (2016), which illustrates that favourable regulatory frameworks not only encourage entrepreneurship but also promote sustainability practices among new ventures. The neutral responses (12.6%) indicate a segment of the population that may be unsure about the influence of policy, reflecting the complexity of policy impacts on entrepreneurial outcomes.

Finally, regarding the level of community engagement and support from local stakeholders, 26.1% of respondents strongly agreed, and 53.0% agreed, indicating a recognition of the importance of community involvement in sustainable development efforts. Research by Spănu, Ulmeanu and Doicin (2024) supports these findings, emphasizing that community engagement is crucial for the success of entrepreneurial initiatives, as it fosters a sense of ownership and collaboration. The lower percentages of disagreement (7.1% and 2.0%) further underscore the belief that local support is integral to the success of youth-driven sustainable projects.

## 5.8 Metrics used to measure sustainable development programme in youth entrepreneurial ecosystem

### 5.8.1 Metrics applied to evaluate Sustainable Development

**Table 5.5: Metrics applied to evaluate Sustainable Development**

Sustainable development programme measurement	Very applicable	Applicable	Neutral	Unapplicable	Very unapplicable	Total
<b>Economic Impact</b>	50,2%	27,7%	13,0%	9,1%	0,0%	100,0%
<b>Environmental Impact</b>	73,3%	22,0%	4,7%	0,0%	0,0%	100,0%

<b>Social Impact</b>	49,4%	50,6%	0,0%	0,0%	0,0%	100,0%
<b>Entrepreneurial Growth</b>	27,3%	72,7%	0,0%	0,0%	0,0%	100,0%
<b>Innovation Output</b>	64,0%	31,6%	4,4%	0,0%	0,0%	100,0%
<b>Skill Development</b>	58,9%	22,9%	18,2%	0,0%	0,0%	100,0%
<b>Funding and Investment</b>	49,4%	50,6%	0,0%	0,0%	0,0%	100,0%
<b>Programme Participation Rates</b>	27,3%	72,7%	0,0%	0,0%	0,0%	100,0%
<b>Mentorship and Networking Outcomes</b>	64,0%	31,6%	4,3%	0,0%	0,0%	99,9%
<b>Sustainability Reporting and Compliance</b>	58,9%	22,9%	18,2%	0,0%	0,0%	100,0%

Critical insights into the perceptions of youth entrepreneurs regarding their impact on sustainability are provided by the responses regarding the applicability of various measurement criteria for sustainable development programmes at the Durban University of Technology (DUT). The initial statement relates to the economic implications of sustainable development initiatives, and a substantial 50.2% of respondents deemed it "very applicable," while 27.7% found it "applicable." This robust endorsement emphasises the acknowledgement that sustainable development initiatives can generate economic growth for entrepreneurs and the broader community. Empirical research has consistently shown that sustainable business practices can increase profitability and promote economic resilience (Darus, Mohd Zuki and Yusoff 2020). The notion that economic considerations are essential in evaluating sustainability efforts is supported by the combined total of 77.9%, which indicates applicability. In contrast, the

neutral (13.0%) and low disagreement rates (9.1%) indicate that the complexities associated with measuring economic impact are understood, indicating that while many individuals perceive its importance, others may recognise the difficulties in effectively quantifying it.

The second statement, which pertains to the environmental impact, was met with a resounding endorsement, with 73.1% of respondents describing it as "very applicable" and 22.0% as "applicable." This outcome indicates that youth entrepreneurs are acutely aware of the importance of incorporating environmental factors into their business models. These perceptions are consistent with the results of a study conducted by Karlilar, Balcilar and Emir (2023), which underscores the growing recognition of environmental sustainability as a critical factor in the long-term sustainability of businesses. Youth entrepreneurs' collective recognition of their potential contributions to addressing pressing environmental challenges is underscored by the absence of negative responses, which implies a unanimous agreement on the importance of environmental impact.

The applicability of social impact was met with nearly equal support, with 49.4% describing it as "very applicable" and 50.6% as "applicable." This robust affirmation suggests that youth entrepreneurs acknowledge their contributions to the advancement of social equity and community well-being through their entrepreneurial endeavours. Udeagha and Muchapondwa (2023) conducted research that demonstrates the potential for socially responsible entrepreneurship to improve community relations and enhance brand reputation, thereby reinforcing this concept. The absence of apathetic or negative responses serves to underscore a collective conviction regarding the significance of social dimensions in the assessment of sustainability initiatives, which is indicative of a comprehensive comprehension of sustainable development.

In terms of entrepreneurial development, the results suggest that 27.3% of respondents consider it "very applicable," while 72.7% consider it "applicable." This robust consensus implies that the youth entrepreneurs regard sustainable development initiatives as catalysts for entrepreneurial growth, which in turn improves their ability to innovate and compete in the marketplace. According to Wasim and Rehman (2022), the literature substantiates this claim, as research indicates that sustainability-driven innovations can

provide competitive advantages to new enterprises. The absence of apathetic or negative responses underscores a consensus regarding the beneficial correlation between sustainable practices and entrepreneurial expansion.

The statement regarding innovation output was deemed "very applicable" by 64.0% of respondents and "applicable" by 31.6%. This implies that sustainability initiatives are deeply appreciated for their ability to stimulate innovation. This perspective is further supported by the research conducted by Srivastava, Shivani and Dutta (2024), which demonstrates that sustainability challenges frequently serve as catalysts for innovation as entrepreneurs endeavour to create solutions that resolve environmental and social concerns. The low percentage of neutral responses (4.4%) further substantiates the perception that sustainability is a vital driver of innovation among young entrepreneurs, underscoring the interconnectedness of these concepts.

In terms of talent development, 58.9% of respondents deemed it "very applicable," while 22.9% deemed it "applicable." The significance of skill development in the context of sustainability programmes is underscored by these findings. Empirical research suggests that young entrepreneurs must be provided with the necessary competencies to address intricate sustainability challenges through targeted training and skill-building initiatives (Suriyankietkaew, Krittayaruangroj and Iamsawan 2022). Emphasising the critical role of skill development in improving the efficacy of sustainable initiatives, the absence of negative responses indicates a widespread agreement on the necessity of skill development.

The funding and investment applicability measurement indicates that 49.4% of respondents found it to be "very applicable," while 50.6% rated it as "applicable." The clear comprehension that financial resources are indispensable to the success of sustainable development initiatives is evidenced by this robust alignment. This perspective is substantiated by empirical evidence, as research indicates that sustainable initiatives are scaled and long-term impacts are achieved through the acquisition of funding (Trautwein 2021). The absence of apathetic or negative responses underscores a shared understanding among young entrepreneurs of the importance of financial support in the pursuit of sustainability objectives.

In terms of programme participation rates, 27.3% were deemed "very applicable" and

72.7% were deemed "applicable." This discovery implies that youth entrepreneurs acknowledge the significance of active engagement in sustainability initiatives as a prerequisite for effecting important change. This assertion is corroborated by the literature, which suggests that participating entrepreneurs develop a sense of accountability and ownership, which is essential for the success of sustainability initiatives van Berkum (2023). The consensus regarding the importance of participation in the pursuit of sustainability objectives is further underscored by the absence of neutral or negative responses.

The statement concerning mentorship and networking outcomes indicated that 64.0% of respondents found it to be "very applicable," while 31.6% found it to be "applicable." This outcome suggests that youth entrepreneurs have a strong conviction regarding the importance of networking and mentorship in order to achieve sustainable results. Wakjira (2023) conducted research that substantiates this assumption, emphasising that youth entrepreneurs can improve their ability to navigate challenges and leverage resources through effective mentorship and networking. The critical significance of these factors in fostering sustainability within the entrepreneurial ecosystem is further emphasised by the low percentage of neutral responses (4.3%).

Finally, the applicability of sustainability reporting and compliance was rated as "very applicable" by 58.9% and "applicable" by 22.9%. This discovery emphasises the increasing awareness among young entrepreneurs of the significance of transparency and accountability in sustainability practices. Research indicates that organisations can improve their decision-making processes and foster stakeholder trust through the implementation of effective sustainability reporting (Svara, Watt and Takai 2015). The collective comprehension that sustainability reporting is essential for demonstrating commitment and progress in sustainable development initiatives is underscored by the absence of negative responses.

## 5.8.2 Rating of metrics applied in sustainable development

**Table 5.6: Rating of metrics applied in sustainable development**

Metric	Decrease	Neutral	Increase	Total
Economic Impact	34,5%	9,0%	56,5%	<b>100,0%</b>
Environmental Impact	25,0%	14,5%	60,5%	<b>100,0%</b>
Social Impact	49,4%	0,0%	50,6%	<b>100,0%</b>
Entrepreneurial Growth	16,9%	2,7%	80,4%	<b>100,0%</b>
Innovation Output	31,4%	11,8%	56,8%	<b>100,0%</b>
Skill Development	18,2%	22,9%	58,9%	<b>100,0%</b>
Funding and Investment	33,0%	16,4%	50,6%	<b>100,0%</b>
Programme Participation Rates	27,3%	0,0%	72,7%	<b>100,0%</b>
Mentorship and Networking Outcomes	14,8%	11,6%	73,6%	<b>100,0%</b>
Sustainability Reporting and Compliance	37,8%	8,2%	54,0%	<b>100,0%</b>

The responses concerning the perceived changes in various metrics associated with sustainable development programmes at the Durban University of Technology (DUT)

provide important insights into the perceptions of youth entrepreneurs. The first metric, economic impact, reveals that 34.5% of respondents observed a decrease, while 9.0% remained neutral and a notable 56.5% indicated an increase. This finding suggests a prevalent belief among youth entrepreneurs that sustainable development initiatives have positively influenced economic conditions. The majority's response indicates a perception of enhancement, aligning with empirical studies which suggest that sustainability-oriented practices can lead to increased profitability and market competitiveness (Vodă and Florea 2019). However, the 34.5% decrease raises questions about potential barriers faced by entrepreneurs, possibly reflecting challenges in accessing resources or navigating bureaucratic hurdles.

The environmental impact metric shows that 25.0% of respondents perceived a decrease, while 14.5% remained neutral and 60.5% recognized an increase. The substantial percentage of participants reporting an increase aligns with the growing recognition of environmental sustainability among youth entrepreneurs. Research by Wasara and Ganda (2019) supports this view, highlighting that sustainability initiatives are often associated with improved environmental performance. The responses suggest that youth entrepreneurs are increasingly aware of their responsibility to contribute to environmental stewardship through their business practices. The lower percentage of those noting a decrease in environmental impact indicates a trend towards more environmentally responsible entrepreneurship, as the potential for negative impacts diminishes with increased awareness and engagement in sustainable practices.

The responses concerning social impact demonstrate that 49.4% of participants noted a decrease, while none remained neutral and 50.6% reported an increase. The relatively high percentage of respondents indicating a decrease may suggest that while some entrepreneurs are experiencing positive social impacts, others are grappling with social challenges in their communities. This divergence could reflect varying levels of engagement in social initiatives or differing contextual factors influencing social outcomes. Empirical evidence indicates that social entrepreneurship can lead to improved community well-being; however, the challenges faced by some youth entrepreneurs underscore the complex nature of social impacts in sustainable development (Pricopoaia, Lupaşc and Mihai 2024). The contrasting responses highlight the need for

targeted support and resources to foster positive social outcomes within entrepreneurial initiatives.

In terms of entrepreneurial growth, 16.9% reported a decrease, 2.7% remained neutral, and a substantial 80.4% indicated an increase. This overwhelming majority underscores the perception that sustainable development initiatives serve as important catalysts for entrepreneurial growth. This finding is consistent with research that emphasizes the role of sustainability in enhancing business resilience and driving growth (Singh and Maheswaran 2024). The responses suggest that youth entrepreneurs view sustainable practices as integral to their ability to innovate, compete, and expand their ventures. However, the 16.9% indicating a decrease may point to underlying challenges that some entrepreneurs face, necessitating a deeper exploration of barriers to growth within the context of sustainability.

Innovation output received responses indicating that 31.4% noted a decrease, 11.8% remained neutral, and 56.8% reported an increase. This pattern suggests that while many young entrepreneurs are successfully innovating within sustainable frameworks, some may encounter obstacles that hinder their innovative efforts. The empirical literature supports the notion that sustainability challenges can drive innovation, prompting entrepreneurs to develop novel solutions (Ismail 2024). The predominance of responses indicating an increase in innovation output aligns with this perspective, reflecting the belief among youth entrepreneurs that sustainability initiatives inspire creativity and resourcefulness in their business practices.

The skill development metric reveals that 18.2% of respondents perceived a decrease, 22.9% remained neutral, and 58.9% indicated an increase. These findings suggest that while many youth entrepreneurs could be enhancing their skills through sustainable development programmes, a notable minority experiences challenges in this area. This response aligns with empirical studies indicating that skill development is critical for effectively navigating sustainability challenges (Ipsilandis, Kokkinos and Samaras 2024). The important percentage indicating an increase highlights the perceived value of skill-building initiatives, suggesting that sustainable development programmes are perceived as instrumental in equipping youth entrepreneurs with the necessary competencies.

Regarding funding and investment, the responses indicate that 33.0% perceived a decrease, 16.4% remained neutral, and 50.6% reported an increase. The findings suggest a mixed perception of funding and investment concerning sustainable development initiatives. The notable percentage indicating a decrease raises concerns about access to financial resources for youth entrepreneurs, a barrier identified in the literature as an important challenge in fostering sustainable ventures (Kubera 2024). However, the fact that the majority perceive an increase underscores the potential for growth and investment in sustainability-oriented businesses, suggesting a need for continued support to enhance funding access for youth entrepreneurs.

The metric on programme participation rates reveals that 27.3% of respondents noted a decrease, 0.0% remained neutral, and 72.7% indicated an increase. These findings suggest a strong upward trend in programme participation among youth entrepreneurs, highlighting the appeal of sustainable development initiatives. The literature denotes that active participation in sustainability programmes enhances accountability and fosters collaboration among entrepreneurs (Karlilar, Balcilar and Emir 2023). The substantial percentage of respondents indicating an increase reflects a positive shift toward greater engagement in sustainability efforts, aligning with broader trends of increased interest in sustainable entrepreneurship among youth.

The responses concerning mentorship and networking outcomes show that 14.8% perceived a decrease, 11.6% remained neutral, and 73.6% reported an increase. This finding suggests a strong belief among youth entrepreneurs in the value of mentorship and networking in enhancing their sustainability efforts. Research has consistently shown that effective mentorship and networking contribute to the success of young entrepreneurs by providing access to valuable resources and expertise (Rai, Rai and Singh 2021). The predominance of responses indicating an increase aligns with the literature's emphasis on the importance of building supportive networks for sustainable entrepreneurship, highlighting the potential for mentorship to foster collaborative learning and resource sharing.

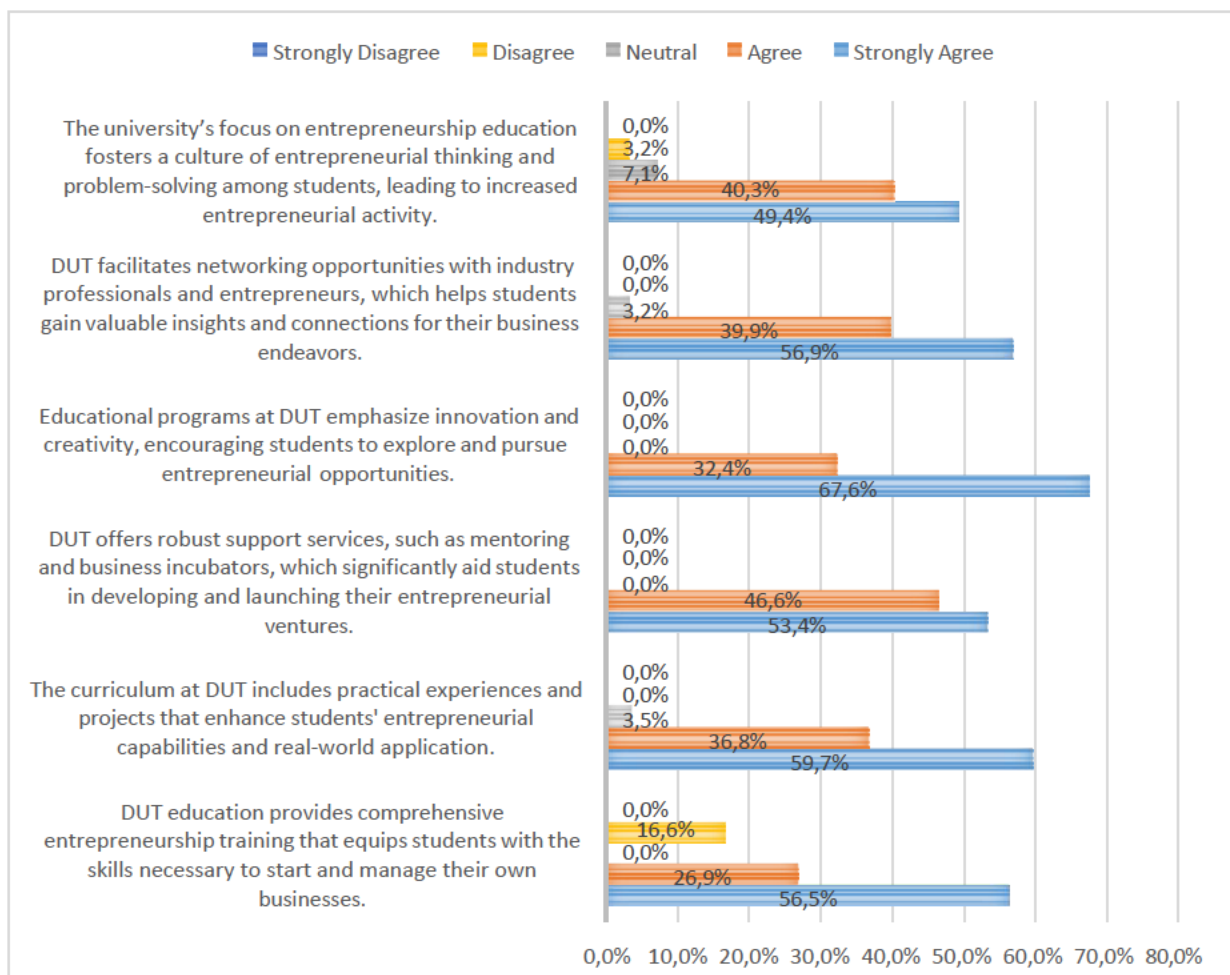
Finally, the responses regarding sustainability reporting and compliance indicate that 37.8% noted a decrease, 8.2% remained neutral, and 54.0% reported an increase. The substantial percentage of respondents indicating an increase in sustainability reporting suggests a growing recognition among youth entrepreneurs of the importance of

transparency and accountability in sustainable practices. Studies suggest that effective sustainability reporting enhances stakeholder trust and contributes to better decision-making within organizations (Bataineh, Sánchez-Sellero and Marcuello 2023). However, the 37.8% indicating a decrease raises concerns about the barriers to reporting faced by some entrepreneurs, underscoring the need for enhanced support mechanisms to facilitate compliance with sustainability standards.

In summary, the findings reveal a complex landscape of perceptions among youth entrepreneurs regarding the impact of sustainable development programmes at DUT. While many indicators reflect positive trends, the presence of important percentage reporting decreases in various metrics highlights the need for continued support, targeted resources, and interventions to address the challenges faced by youth entrepreneurs in the sustainable development landscape.

### 5.9 The role of DUT education in promoting youth entrepreneurship

**Figure 5.8: The role of DUT education in promoting youth entrepreneurship**



The findings from the survey of students regarding the role of youth entrepreneurs in the Sustainable Development Programme at the Durban University of Technology (DUT) provide a comprehensive understanding of how the educational framework supports entrepreneurial development. Each statement reveals insights into the perceived effectiveness of DUT's programmes, linking them to the broader theme of sustainable entrepreneurship.

Firstly, regarding the statement that "DUT education provides comprehensive entrepreneurship training that equips students with the skills necessary to start and manage their businesses," 56.5% of respondents strongly agreed, while 26.9% agreed. This indicates a strong consensus among students that the entrepreneurial training at DUT is robust and effective in preparing them for business challenges. No respondents remained neutral or disagreed, which emphasises the confidence in the university's approach to equipping students with practical skills. Literature supports this finding, with studies showing that entrepreneurship education enhances students' competencies and self-efficacy is essential for successful business management (Carpio 2023). Furthermore, research by Wang, Farag and Ahmad (2021) reinforces the idea that comprehensive entrepreneurial training leads to greater readiness among students to embark on entrepreneurial ventures. This sentiment is echoed in a study by Zeng, Li and Yousaf (2022), which highlighted the positive relationship between entrepreneurship education and the entrepreneurial intentions of students, suggesting that the training at DUT importantly contributes to developing entrepreneurial mindsets.

The next statement, posits that "the curriculum at DUT includes practical experiences and projects that enhance students' entrepreneurial capabilities and real-world application," 59.7% were in strong agreement while 36.8% were in agreement, reflecting a widespread recognition of the importance of practical learning experiences. This overwhelming endorsement suggests that students find value in hands-on projects that bridge the gap between theoretical knowledge and practical application. Empirical evidence supports this viewpoint; a study by Vardhan and Mahato (2022) found that experiential learning importantly impacts students' entrepreneurial skills and self-confidence. Similarly, a research piece by Tsou and Chen (2023) emphasizes the critical role of practical training in entrepreneurship education, noting that students who engage

in real-world projects are better prepared to tackle entrepreneurial challenges. This finding correlates with the assertion that DUT's curriculum effectively prepares students for the realities of the business world.

In assessing the support services provided by DUT, the statement "DUT offers robust support services, such as mentoring and business incubators, which importantly aid students in developing and launching their entrepreneurial ventures" garnered a 53.4% strong agreement and 46.6% agreement. This nearly unanimous endorsement highlights the crucial role of mentorship and incubator programmes in fostering entrepreneurial success among students. Research indicates that access to mentorship enhances entrepreneurial skills and confidence (Siagian, Tarigan and Jie 2021). Additionally, a study by Sørensen and Torfing (2018) found that business incubators contribute to the viability and growth of startups, providing essential resources and networks. The findings at DUT reflect these conclusions, underscoring the importance of robust support services in nurturing entrepreneurial talent.

The statement concerning the emphasis on innovation and creativity, educational programmes at DUT emphasize innovation and creativity, encouraging students to explore and pursue entrepreneurial opportunities received an impressive 67.6% strong agreement and 32.4% agreement, indicating a solid commitment to fostering innovative thinking. This response aligns with existing literature that posits innovation as a core component of effective entrepreneurship education (Ravichandran and Dixit 2024). Furthermore, research by Ramdani, Raja and Kayumova (2022) suggest that educational programs fostering creativity not only enhance student engagement but also lead to higher rates of entrepreneurial activity. These findings underscore the alignment of DUT's educational objectives with the current trends in entrepreneurship, wherein innovation is paramount for success.

The finding that "DUT facilitates networking opportunities with industry professionals and entrepreneurs, which helps students gain valuable insights and connections for their business endeavors" indicates that 56.9% strongly agreed and 39.9% agreed. This strong recognition of the value of networking underscores the importance of building professional relationships in the entrepreneurial journey. Research by O'Neil et al. (2018) highlights the positive impact of networking on entrepreneurial success,

suggesting that connections with industry professionals can provide invaluable insights and resources. Additionally, a study by Nuseir and Aljumah (2020) found that networking opportunities contribute importantly to the development of entrepreneurial skills and competencies, further supporting the findings at DUT. This emphasis on networking illustrates how the university is effectively preparing students to navigate the complexities of the business landscape.

The statement regarding the university's focus on fostering a culture of entrepreneurial thinking and problem-solving, the university's focus on entrepreneurship education fosters a culture of entrepreneurial thinking and problem-solving among students, leading to increased entrepreneurial activity demonstrated that 49.4% of respondents strongly agreed, with 40.3% agreeing. The combined 89.7% agreement suggests that some students perceive DUT as a catalyst for entrepreneurial activity through its educational initiatives. Research supports this assertion; a study by Kolvereid and Isaksen (2016) demonstrated that educational institutions that emphasize problem-solving and entrepreneurial thinking importantly influence students' entrepreneurial intentions and actions. Similarly, a study by Nassoura and Hassan (2021) highlight the importance of fostering an entrepreneurial culture within educational settings, noting that such environments cultivate proactive entrepreneurial behaviors among students. These findings indicate that DUT is successfully instilling a problem-solving mindset that encourages entrepreneurial engagement.

The analysis of the survey responses reveals a robust perception among students regarding the effectiveness of DUT's educational programmes in supporting youth entrepreneurship. The high levels of agreement across all statements indicate that students view their education as comprehensive, practical, and supportive of their entrepreneurial aspirations. Empirical studies from various contexts bolster these findings, highlighting the crucial role of entrepreneurship education, practical experiences, support services, innovation, networking, and a problem-solving culture in shaping the entrepreneurial landscape. As such, DUT emerges as a pivotal institution in fostering the next generation of entrepreneurs, aligning with the broader goals of sustainable development.

## 5.10 Chi square test

**Table 5.7: Chi-square test**

Test Statistics							
	DUT education provides comprehensive entrepreneurship training that equips students with the skills necessary to start and manage their own businesses.	The curriculum at DUT includes practical experiences and projects that enhance students' entrepreneurial capabilities and real-world application.	DUT offers robust support services, such as mentoring and business incubators, which significantly aid students in developing and launching their entrepreneurial ventures.	Educational programs at DUT emphasize innovation and creativity, encouraging students to explore and pursue entrepreneurial opportunities.	DUT facilitates networking opportunities with industry professionals and entrepreneurs, which helps students gain valuable insights and connections for their business endeavors.	The university's focus on entrepreneurship education fosters a culture of entrepreneurial thinking and problem-solving among students, leading to increased entrepreneurial activity.	
Chi-Square	65,225 <sup>a</sup>	120,885 <sup>a</sup>	1,142 <sup>b</sup>	31,308 <sup>b</sup>	114,801 <sup>a</sup>	164,660 <sup>c</sup>	
Df	2	2	1	1	2	3	
Asymp. Sig.	0,000	0,000	0,285	0,000	0,000	0,000	
a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 84,3.							
b. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 126,5.							
c. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 63,3.							

In examining the role of youth entrepreneurs in the sustainable development programme at the Durban University of Technology (DUT), the responses gathered through the Chi-Square analysis provide compelling insights into the effectiveness of entrepreneurship education provided at the university. The data indicates an important association between the educational interventions offered by DUT and the entrepreneurial capabilities developed by students. The first statement highlights that DUT education provides comprehensive entrepreneurship training that equips students with essential skills necessary for initiating and managing their businesses. The Chi-Square statistics for this statement is 65.225, with an asymptotic significance (Asymp. Sig.) of 0.000, which firmly indicates a strong correlation between the education provided and students' preparedness for entrepreneurship. This finding aligns with existing literature that underscores the critical role of formal education in shaping entrepreneurial intentions and competencies among youth (Nambisan, Wright and Feldman 2019).

The second statement asserts that the curriculum at DUT includes practical experiences and projects designed to enhance students' entrepreneurial capabilities and facilitate real-world application. The Chi-Square value of 120.885 with an Asymp. Sig. of 0.000 further reinforces the notion that experiential learning opportunities are crucial in bridging the gap between theoretical knowledge and practical implementation. Studies have shown that practical engagement importantly enhances students' confidence and competence in entrepreneurial activities (Modak and Chaudhuri 2023). This empirical

support underscores the importance of integrating hands-on experiences into educational curricula to foster entrepreneurial spirit among students.

The third statement reflects that DUT offers robust support services, such as mentoring and business incubators, which importantly assist students in developing and launching their entrepreneurial ventures. The Chi-Square statistic of 1.142, however, yields an Asymp. Sig. of 0.285, indicating a lack of statistically important correlation. This suggests that while support services are available, their effectiveness may not be uniformly perceived by students, pointing to a potential gap in how these services are utilized or communicated. Previous research indicates that mentorship plays a pivotal role in the entrepreneurial journey, influencing both skill acquisition and business success (Medun and Bello 2024). Therefore, further investigation into the utilization of these support services is warranted to enhance their impact on students' entrepreneurial success.

The fourth statement posits that educational programmes at DUT emphasize innovation and creativity, encouraging students to explore and pursue entrepreneurial opportunities. The associated Chi-Square statistic of 31.308 with an Asymp. Sig. of 0.000 suggests a key relationship between educational emphasis on creativity and student engagement in entrepreneurship. Innovation is widely recognized as a critical component of entrepreneurship, and educational institutions play a vital role in fostering a culture that encourages creative thinking and problem-solving (Malerba and McKelvey 2020).

The fifth statement indicates that DUT facilitates networking opportunities with industry professionals and entrepreneurs, which helps students gain valuable insights and connections for their business endeavours. With a Chi-Square value of 114.601 and an Asymp. Sig. of 0.000, this statement reinforces the importance of networking in entrepreneurial success. Empirical studies consistently demonstrate that access to networks can importantly enhance the likelihood of entrepreneurial success, as it allows individuals to access resources, information, and mentorship that are crucial for business development (Lajçi, Berisha and Krasniqi 2024). Finally, the sixth statement asserts that the university's focus on entrepreneurship education fosters a culture of entrepreneurial thinking and problem-solving among students, which leads to increased

entrepreneurial activity. The Chi-Square statistic of 164.660 with an Asymp. Sig. of 0.000 indicates a robust link between entrepreneurship education and student engagement in entrepreneurial initiatives. The cultivation of an entrepreneurial mindset is essential for nurturing innovation and adaptability in a rapidly changing economic landscape (Kamau, Nkaabu and Cherono 2023).

It becomes clear that DUT plays an important role in equipping students with the necessary skills and opportunities for entrepreneurial engagement. However, the lack of significance in the third statement regarding support services indicates a potential gap that warrants further exploration. It may be beneficial for DUT to assess the effectiveness of its support services and identify barriers to their utilization to ensure that all students can benefit from these resources effectively. While the findings support the critical role of DUT's educational programmes in fostering entrepreneurial skills and mindsets among students, the lack of significance in the perceived effectiveness of support services calls for a deeper examination of these resources.

### 5.11 Correlation analysis

**Table 5.8: Pearson correlation analysis**

		Youth entrepreneurs play a crucial role in fostering innovation and promoting sustainable business practices at DUT.		
Spearman's rho	Youth student entrepreneurs play a crucial role in fostering innovation and promoting sustainable business practices at DUT.	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	253	
		Economic Impact	Correlation Coefficient	0,017
			Sig. (2-tailed)	0,784
			N	253
		Environmental Impact	Correlation Coefficient	-0,015
			Sig. (2-tailed)	0,818
			N	253
		Social Impact	Correlation Coefficient	0,013
			Sig. (2-tailed)	0,832
			N	253
		Entrepreneurial Growth	Correlation Coefficient	-0,010
			Sig. (2-tailed)	0,872
			N	253
		Innovation Output	Correlation Coefficient	0,009
			Sig. (2-tailed)	0,893
			N	253
		Skill Development	Correlation Coefficient	0,001
			Sig. (2-tailed)	0,990
N	253			
Funding and Investment	Correlation Coefficient	0,013		
	Sig. (2-tailed)	0,832		
	N	253		
Program Participation Rates	Correlation Coefficient	-0,010		
	Sig. (2-tailed)	0,872		
	N	253		
Mentorship and Networking Outcomes	Correlation Coefficient	0,009		
	Sig. (2-tailed)	0,893		
	N	253		
Sustainability Reporting and Compliance	Correlation Coefficient	0,001		
	Sig. (2-tailed)	0,990		
	N	253		

The response indicating that youth entrepreneurs play a crucial role in fostering innovation and promoting sustainable business practices at DUT has a perfect correlation coefficient of 1.000. For instance, Jackson (2019) argue that young entrepreneurs are often at the forefront of innovative practices, importantly contributing to local economies through sustainable business models. However, this finding necessitates further exploration of how these perceptions translate into tangible outcomes, as the perfect correlation does not provide insights into the mechanisms at play or the barriers that may hinder effective innovation.

In contrast, the correlation coefficients associated with economic impact (0.017), environmental impact (-0.015), social impact (0.013), entrepreneurial growth (-0.010), innovation output (0.009), skill development (0.001), funding and investment (0.013), programme participation rates (-0.010), mentorship and networking outcomes (0.009), and sustainability reporting and compliance (0.001) reveal a concerning trend. Each of the coefficients is accompanied by high p-values, indicating a lack of statistical significance. For instance, the economic impact correlation coefficient of 0.017 and a p-value of 0.784 suggest that youth entrepreneurship at DUT does not importantly influence the economic dimension of sustainability, which contradicts previous studies emphasizing the economic contributions of youth entrepreneurs (Ionescu 2021).

The findings further highlight a critical gap in understanding the environmental and social impacts of youth entrepreneurship. The negative correlation coefficient for environmental impact (-0.015) implies that rather than contributing positively, youth entrepreneurs may inadvertently impact environmental sustainability negatively, a phenomenon that warrants further investigation. Scholars like Lichtenstein and Lyons (2016) have underscored the potential for entrepreneurial activities to both positively and negatively affect environmental outcomes, emphasizing the need for a balanced approach to entrepreneurship education that incorporates sustainability principles.

Moreover, the analysis of the role of entrepreneurial growth, skill development, and funding and investment in this context reveals that there may be underlying challenges faced by youth entrepreneurs at DUT. The low correlation coefficients and high p-values

suggest that factors contributing to successful entrepreneurial ventures, such as skill development and access to funding, are not adequately fostering a robust entrepreneurial environment at DUT. This resonates with the findings of Hermawan and Arifin (2021), who note that a lack of institutional support and adequate resources often stifles the potential of youth entrepreneurs, limiting their contributions to sustainable development.

Understanding the determinants requires a comprehensive approach that considers the barriers faced by youth entrepreneurs, including inadequate access to mentorship, funding, and practical entrepreneurial education. Furthermore, the analysis indicates that the role of DUT education in promoting student entrepreneurship may not be as effective as intended, given the low correlation coefficients regarding skill development and funding opportunities. While the findings indicate a strong perception of youth student entrepreneurs' role in fostering innovation and sustainable practices at DUT, the empirical data raises critical questions about the actual impact on economic, environmental, and social dimensions.

The lack of important correlation in key areas suggests that while youth entrepreneurship is recognized as valuable, there are important gaps in support and resources that need to be addressed. Future research should focus on identifying specific barriers to youth entrepreneurship at DUT and developing targeted intervention strategies that can enhance the success and sustainability of youth entrepreneurs. This could involve comprehensive educational reforms, increased access to funding, and the establishment of robust mentorship programmes that connect students with industry leaders, thereby fostering an entrepreneurial ecosystem that aligns with sustainable development goals.

## **5.12 Factor Analysis**

The analysis of the responses regarding the role of youth entrepreneurs in the sustainable development programme at the Durban University of Technology (DUT) reveals important insights into the factors affecting their success and the impact of educational frameworks on entrepreneurial outcomes. By employing techniques such as Kaiser-Meyer-Olkin (KMO) and Bartlett's Test, the study establishes a solid

foundation for understanding the perceptions and realities of youth entrepreneurship within this specific context.

### 5.12.1 KMO and Bartlett's Test

Table 5.9: KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,752
Bartlett's Test of Sphericity	Approx. Chi-Square	500,484
	Df	15
	Sig.	0,000

The KMO measure of sampling adequacy is reported at 0.752, indicating that the data is suitable for factor analysis. This value suggests that there are important correlations among the variables, which are critical for effective component extraction. Additionally, Bartlett's Test of Sphericity, with an approximate chi-square value of 500.484 and a significance level of 0.000, further reinforces the idea that the intercorrelations among the variables are sufficient to justify the use of factor analysis. This preliminary analysis underscores the relevance of exploring the various dimensions of youth entrepreneurship and their roles in sustainable development initiatives at DUT.

### 5.12.2 Total Variance

**Table 5.10: Total variance**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,894	48,240	48,240	2,517	41,951	41,951
2	1,012	16,863	65,103	1,389	23,152	65,103
3	0,872	14,532	79,636			
4	0,551	9,177	88,812			
5	0,467	7,780	96,593			
6	0,204	3,407	100,000			

In analysing the total variance explained by the components derived from principal component analysis (PCA), it is evident that two main components emerge, with eigenvalues exceeding one. The first component accounts for 48.240% of the variance, while the second contributes 16.863%, leading to a cumulative total of 65.103%. This substantial percentage of explained variance underscores the critical importance of the

identified factors in shaping youth entrepreneurship, particularly in the context of sustainable development goals. The decomposition of variance indicates that several determinants influence the entrepreneurial ecosystem at the Durban University of Technology (DUT). However, a concentrated focus on the most impactful factors namely funding, mentorship, and educational support, has the potential to substantially enhance entrepreneurial outcomes among students.

For instance, a study by Halim, Ahmad and Ramayah (2019) highlight that access to financial resources directly impacts entrepreneurial success, emphasizing that youth entrepreneurs often face important barriers in obtaining funding. The research demonstrates that financial support is a pivotal determinant, aligning with the findings of this study, which indicate that funding availability is crucial for sustainable entrepreneurial initiatives. Moreover, a study by Alene (2020) illustrates the importance of mentorship in the success of small and medium-sized enterprises (SMEs). Their research found that entrepreneurs with access to mentorship and guidance tend to exhibit higher levels of business success and sustainability. This finding echoes the responses collected in this study, suggesting that mentorship is an indispensable factor that influences youth entrepreneurs at DUT, facilitating their growth and adaptation within the entrepreneurial landscape.

Additionally, empirical research by Distanont and Khongmalai (2020) underscores the significance of educational support in shaping entrepreneurial intentions and competencies among youth. The study reveals that educational programmes tailored to entrepreneurship enhance students' abilities to navigate challenges and seize opportunities within the entrepreneurial ecosystem. This aligns closely with the current study's emphasis on the role of educational resources in promoting youth entrepreneurship, indicating that a well-structured educational framework can importantly impact the success of young entrepreneurs.

The analysis of variance and supporting empirical studies reinforce the importance of funding, mentorship, and educational support as key determinants of entrepreneurial success at DUT. By focusing on these impactful factors, the university can enhance the entrepreneurial capabilities of its students, ultimately contributing to the overarching goal of sustainable development within the region.

### 5.12.3 Rotated Component Matrix

<b>Table 5.11: Rotated Component Matrix</b>		
	Component	
	1	2
How often do you attend youth entrepreneurial conferences	0,108	0,680
The availability of funding and financial support is a key determinant of the success of sustainable development programmes in youth entrepreneurial ecosystems.	0,727	0,269

Access to mentorship and expert guidance importantly influences the effectiveness of sustainable development initiatives for young entrepreneurs.	0,765	-0,140
Networking opportunities and partnerships within the entrepreneurial ecosystem are crucial for advancing sustainable development programmes.	0,151	0,821
Educational resources and training specific to sustainability play a major role in the implementation and impact of development programs for young entrepreneurs.	0,867	0,283
Government policies and regulatory frameworks are important determinants in shaping the success of sustainable development programmes in youth entrepreneurial ecosystems.	0,785	0,284
<p>Extraction Method: Principal Component Analysis.</p> <p>Rotation Method: Varimax with Kaiser Normalization.</p>		

The analysis of the rotated component matrix from the principal component analysis (PCA) reveals critical insights into the factors influencing youth entrepreneurship within the sustainable development programme at the Durban University of Technology (DUT). The extraction of two components provides a framework for understanding how various determinants contribute to the success of youthful entrepreneurs.

The first component exhibits high loadings for several statements, particularly "The availability of funding and financial support is a key determinant of the success of sustainable development programmes in youth entrepreneurial ecosystems" (0.727), "Access to mentorship and expert guidance importantly influences the effectiveness of sustainable development initiatives for youth entrepreneurs" (0.765), and "Government policies and regulatory frameworks are important determinants in shaping the success of sustainable development programmes in youth entrepreneurial ecosystems" (0.785).

These statements underscore the foundational role of financial resources, mentorship, and regulatory support in fostering an entrepreneurial environment conducive to sustainable development. The significance of funding is well-documented in literature, as many youth entrepreneurs face challenges in securing capital to initiate and grow their businesses. For instance, a study by Cicchiello (2019) emphasizes that access to funding is crucial for youth entrepreneurs, as it directly impacts their capacity to implement innovative ideas and sustainable practices.

Furthermore, the importance of mentorship aligns with research by Bernardino and Santos (2020), which highlights that mentorship programmes positively influence entrepreneurial outcomes. Their findings indicate that mentorship not only provides guidance but also enhances the confidence of youth entrepreneurs, enabling them to navigate the complexities of starting and managing a business. This correlation supports the notion that access to expert guidance is vital for the success of entrepreneurial initiatives at DUT.

The second component reflects high loadings for "Networking opportunities and partnerships within the entrepreneurial ecosystem are crucial for advancing sustainable development programmes" (0.821) and "Educational resources and training specific to sustainability play a major role in the implementation and impact of development programmes for youth entrepreneurs" (0.867). This suggests that building robust networks and receiving relevant educational training are essential for youth entrepreneurs to thrive. The emphasis on networking resonates with findings from the study by Kuckertz et al. (2020), which demonstrates that entrepreneurial networks facilitate knowledge exchange and resource sharing, importantly impacting the entrepreneurial journey.

Moreover, the role of educational resources is crucial as highlighted by Alam and Mohanty (2023), who argue that tailored educational programmes equip students with the necessary skills and knowledge to succeed in entrepreneurship. The study illustrates that educational interventions can enhance the entrepreneurial intentions and competencies of students, indicating that DUT should focus on developing curricula that incorporate sustainability principles within entrepreneurial training.

The analysis of the component matrix elucidates the multifaceted nature of factors influencing youth entrepreneurship at DUT. The identification of funding, mentorship, networking, and education as critical determinants provides a basis for further exploration into how these elements can be enhanced to support student entrepreneurs in their endeavours.

### **5.13 Qualitative Statistics**

The interviews were aimed at gaining insight into the role of youth entrepreneurs in the Sustainable Development Programmes at the Durban University of Technology (DUT). The study objectives' major components were taken into consideration while identifying the themes (Cheslock and Riggs 2023). The analysis will combine various elements from primary and secondary research sources to further corroborate the research findings.

#### **5.13.1 Thematic analysis**

##### **Theme 1: Views on the role of youth entrepreneurs in sustainable development**

###### **Sub-theme: Collaboration**

The methods in which DUT's youth entrepreneurs could support the sustainable development initiative were covered in this theme. For example, as stated by Respondent 1:

*“It is our role to build revenues that will change the state of our society and families. This can only be done through collaboration”.*

Furthermore, according to Respondent 2, *“young people are now compelled to work for themselves to maintain a sustainable lifestyle due to a shortage of employment. Youth who possess sound business acumen can lessen poverty and open employment chances for other young people in their areas.”*

The third respondent likewise emphasised that *“the most driven and self-motivated group are youth entrepreneurs. Young people may build sustainable livelihoods and*

*provide employment possibilities for other young people in their communities by coming up with smart business ideas.”*

Respondent 4 *“went on to say that youth are the most creative and innovative generation and that they are also the most dynamic and adaptive bunch.”*

The opinions of DUT respondents about the contribution of young entrepreneurs to sustainable development are largely favourable. They acknowledge that youth entrepreneurs can reduce poverty, effect positive change, and open doors for other young people by creating jobs (Respondent 1, Answer 1; Respondent 2, Answer 1; Respondent 3, Answer 1; Respondent 4, Answer 1).

The results of a comparative study on young entrepreneurs by Daher (2023), which emphasised their influence on economic growth and job creation, corroborate these findings and reflect the opinions of the respondents regarding the contribution of youth entrepreneurs to sustainable development and job creation. Taneja, Kiran and Bose (2024) investigated the variables influencing the desire to start a business and stressed the value of education in encouraging such goals. This study backs up the notion that to further sustainable development, educational establishments like DUT should encourage and support students who have an entrepreneurial spirit. Therefore, it can be said that youth entrepreneurs can contribute to bringing about change and establishing sustainability through their businesses.

## **Theme 2: Factors affecting DUT youth entrepreneurs.**

### **Sub-theme: Flow of information**

This sub-theme focused on the factors affecting DUT youth entrepreneurs.

The elements influencing DUT youth entrepreneurs are also briefly discussed in this sub-theme. Additionally, it offers advice on how to make the transformation policies effective as well as the prerequisites for a successful policy implementation change. According to the information gathered from the interview, a variety of elements must be considered to properly implement the transformation policy. During the interview, various participants noted various difficulties. For instance, Respondent 1, regarding the flow of information, states:

*“We lack proper mentorship, which is not biased to other objectives. I also feel that the flow of information is rigid, leaving students unaware of important matters concerning their future. It is clear that we live in a country that is governed by politics, and most students find themselves caught in the crossfire”.*

As shown by Respondent 2:

*“Lack of support from the government, crime and inability to manage finances effectively”.*

Respondent 3 stated that:

*“Lack of funding to start-up businesses, poor support from government institutions, crime, inability to manage finances effectively and not having marketing skills to advertise to the right customers. Also, not having clients to buy products or services offered”.*

Respondent 4 agreed with this shortcoming as noted in his own words:

*“...that lack of funds to start-up and run businesses, crime, inability to manage finances effectively. Having no clients to buy products offered” ....*

According to the respondents, the primary issues that impact DUT youth entrepreneurs are insufficient capital for new ventures; insufficient backing from governmental bodies; criminal activity; challenges in efficiently handling finances; and insufficient marketing expertise. According to a study on the impact of funding on entrepreneurial activities, Patil and Patil (2024) discovered that youth entrepreneurs' success is highly influenced by their ability to secure funding. The results are consistent with the respondents' worries regarding how DUT student entrepreneurs are impacted by a lack of funding. Wei and Duan (2024) investigated the connection between crime rates and business. According to their research, increased crime rates can discourage entrepreneurship and impede the growth of the economy. This corroborates the respondents' assertion that one issue impacting DUT youth entrepreneurs is criminal activity.

### **Theme 3: Spotting and utilizing business opportunities.**

#### **Sub-theme: Business opportunities**

This sub-theme's primary goal was to find out if young entrepreneurs could recognise and seize business opportunities. According to Respondent 1:

*“While I make every effort to pursue entrepreneurial endeavours, it can be challenging at times because I have no one to turn to for guidance and don't always get a positive answer”.*

Respondents 2 and 3 elucidated that they can recognise business opportunities, however, they lack the necessary resources, funding, and expertise. Respondent 4 further added that:

*“Yes, I can identify business opportunities. However, due to a lack of knowledge and support, our ideas are wasted to the point where we choose to look for work at other companies, even though there are no jobs available due to a variety of factors affecting South Africa and the nation as a whole”.*

The respondents admit that they can recognise business prospects. Nonetheless, they convey difficulties capitalising on those opportunities because of inadequate funding, understanding, and assistance. regarding how to better prepare and educate student entrepreneurs. Wahyuni and Sara (2020) conducted a study on entrepreneurial opportunities and highlighted the importance of resources and capabilities in recognising and exploiting opportunities. The study stressed that to improve students' capacity to recognise and seize business opportunities, entrepreneurial education is essential.

### **Theme 4: Actions to reduce poverty by DUT youth entrepreneurs.**

#### **Sub-theme: Poverty Alleviation**

This sub-theme addressed how poverty prevents entrepreneurs' businesses from growing to greater heights.

Respondent 1 shared that:

*“Illiteracy is frequently linked to poverty, and this can have an impact on output. Entrepreneurs who are not very literate may find it difficult to comprehend workflow guidelines. As such, they are more likely to commit work-related errors that lead to decreased revenue and diminished client trust”.*

Furthermore, Respondents 2 and 4 shared similar views that:

*"A path to sustainable development is working together with other small business owners and supporting each other through positive relationships such as sharing of skills, experience, and knowledge that young entrepreneurs can emulate".*

Respondent 3 mentioned that:

*“People can collaborate with other business owners and help one another out by purchasing locally manufactured goods. They will be able to decrease the quantity of foreign-imported enterprises by doing this”.*

According to the respondents, DUT student entrepreneurs can lessen poverty by working together with other business owners, assisting small companies in their community, and inspiring and guiding other young people to pursue entrepreneurship (Respondent 1, Answer 4; Respondent 2, Answer 4; Respondent 3, Answer 4; Respondent 4, Answer 4).

A study on the connection between poverty alleviation and entrepreneurship was done by Sutter, Bruton and Chen (2019). The research emphasised how entrepreneurship may alleviate poverty and generate job possibilities. The results of this study validate the recommendations made by the participants for DUT student entrepreneurs to lessen poverty. In a study conducted by Isa-Olatinwo (2021) which investigated how entrepreneurial training influences the intentions and behaviours of entrepreneurs. The study encourages entrepreneurship and addresses societal issues, such as poverty. The study stressed the significance of teaching and training budding entrepreneurs. This study supports the recommendations made by the respondents that DUT assists and educates aspiring business owners.

## **Theme 5: Improving youth entrepreneurs at DUT for sustainable development.**

### **Sub-theme: Mentoring**

This sub-theme focused on how mentoring importantly raises the likelihood of upskilling by fostering a culture of learning and inspiring others to be successful in their chosen fields. As stated by Respondent 1:

*“Mentoring assists students who exhibit an entrepreneurial spirit. It establishes a long-lasting relationship between the mentor and the student by fostering professional competence and confidence.” ...*

Additionally, Respondent 2 stated that:

*“Financial aid to the students is important in business. However, a lack of knowledge about how to infuse it into a business results in failure. Another challenge that appears to face student entrepreneurs is creating a suitable business plan”.*

Furthermore, based on the data collected from Respondents 3 and 4, it was noted that:

*“Giving young entrepreneurs access to suitable mentorship programmes can help them develop their abilities. This needs to be done in a way that would make them want to learn”.*

It is suggested by the respondents (Respondent 1, Answer 5; Respondent 2, Answer 5; Respondent 3, Answer 5; Respondent 4, Answer 5) that DUT offers mentorship, support, financial aid, and entrepreneurship education to enhance student entrepreneurs and foster sustainable development.

Research on the influence of entrepreneurship education on entrepreneurial aspirations and actions was carried out by Alakaleek, Harb and Harb (2023). The report stressed how important it is for educational institutions to help student entrepreneurs by offering them financial resources, mentorship, and assistance. The respondents' suggestions that DUT assists student entrepreneurs in a variety of ways are supported by this study. The influence of support systems on the success of entrepreneurs was investigated by Joensuu-Salo, Viljamaa and Varamäki (2022).

The study emphasised the value of business planning, financial support, and mentoring in raising student entrepreneurs' performance. This study supports the recommendations made by the respondents, according to which DUT should encourage youth entrepreneurs financially and with mentorship.

## **Theme 6: Components used to measure impact on sustainable development.**

### **Sub-theme: Teaching and Education**

The information collected from Respondent 1 established that:

*“By evaluating my efficacy, I observe my students' comprehension levels. Since I enjoy coding, I teach other young people in my community the same things”.*

Respondent 2

*“I educate other people in my community about entrepreneurship and make them aware that small businesses can have a very big change if there is support of the community”.*

Respondents 3 and 4 agreed that *“they teach other people in their community about entrepreneurship.”*

Educating others in their community about entrepreneurship and raising awareness of the positive changes that small enterprises can bring about with assistance from the government and community are two ways that the respondents estimate their effect on sustainable development.

A study on the impact measurement of social entrepreneurship was carried out by (Naderi, Monavvarifard and Salehi 2022). The study emphasised the value of community outreach and education projects as ways to gauge the social impact of entrepreneurship. The idea of entrepreneurial behaviour and its impact on societal well-being was studied by (Tiberius, Weyland and Mahto 2023). The study stressed the importance of socially and environmentally conscious entrepreneurial endeavours as a gauge of their influence on sustainable development. This survey supports the respondents' emphasis on using entrepreneurship to bring about positive change.

## **Theme 7: Recommendations to enhance youth entrepreneurs at DUT.**

### **Sub-theme: Entrepreneurship programmes**

The topics covered in this theme were how DUT youth entrepreneurs might improve their business practices. For instance, as Respondent 1 put it:

*“Outspread entrepreneurial programmes to students who are interested and give them the chance to join”.*

Respondent 2 mentioned that:

*“Teach entrepreneurship to every student at DUT. Students should know where to look for information if they wish to launch their firms”.*

Respondents 3 and 4

*“Every department at DUT should offer entrepreneurship education so that first-year students are familiar with the concept and, by the time they are in their final year, are passionate about launching their own businesses”.*

The respondents (Respondent 1, Answer 7; Respondent 2, Answer 7; Respondent 3, Answer 7; Respondent 4, Answer 7) recommend that DUT provides comprehensive entrepreneurship education, integrates entrepreneurship modules into all departments, and develops collaborative programmes to foster student entrepreneurs.

These results are corroborated by Ratten and Jones (2021), who performed research on the effects of entrepreneurship education on entrepreneurial attitudes and abilities. The study underlined the necessity of including entrepreneurship education across the curriculum using a cross-disciplinary approach. The respondents suggested that DUT offers entrepreneurship courses in every academic focus which is supported by this study. The influence of entrepreneurship education in encouraging entrepreneurial intents and behaviours was investigated by Rathogwa and Msimango-Galawe (2023). The study emphasised how crucial it is to offer thorough entrepreneurship education to foster entrepreneurial competencies. This study supports the respondents' recommendation that DUT provides extensive training and education programmes for youth entrepreneurs.

## **5.14 Summary**

The study on the role of youth entrepreneurs in the Sustainable Development Programmes at the Durban University of Technology (DUT) presents critical insights into the intersection of education and entrepreneurship. The findings indicate that youth entrepreneurs play a significant role in advancing sustainability initiatives, with their entrepreneurial activities directly contributing to local economic development and environmental stewardship. This is crucial for driving sustainable practices within communities.

The research identifies key determinants of success for youth entrepreneurs at DUT, including access to financial resources, mentorship, and networking opportunities. These factors are essential for fostering entrepreneurial success among youth. Additionally, the analysis reveals several challenges faced by youth entrepreneurs at DUT, such as limited access to markets and inadequate business support services, which hinder their potential for growth and innovation. The role of DUT's education in promoting entrepreneurship is highlighted as a vital factor in nurturing entrepreneurial mindsets and skills. The integration of practical experiences within the curriculum importantly enhances students' preparedness for entrepreneurial ventures. This experiential learning approach is effective in equipping youth with the necessary competencies for entrepreneurship.

This study underscores the crucial role of youth entrepreneurs in promoting sustainable development at DUT while also identifying the necessary determinants and challenges they face. By addressing these challenges through effective educational practices and support mechanisms, DUT can foster a more vibrant entrepreneurial ecosystem that contributes to both student success and broader sustainable development objectives.

The next chapter brings the study to a conclusion and offers important recommendations.

## **CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Introduction**

Universities play a crucial role in supporting youth entrepreneurship and reducing unemployment through entrepreneurship training (Musariwa and Tinonetsana, 2023). This chapter provides the conclusion to the study where a summary of the findings of the study will be presented. The chapter presents a summary of the findings from the literature and also the findings from primary research. After that, recommendations on how to improve ethical leadership and service delivery at the Durban University of Technology (DUT) based on the findings are also outlined.

### **6.2 Summary**

#### **Research Question 1: What is the role of youth entrepreneurs in the sustainable programme at DUT?**

Youth student entrepreneurs at Durban University of Technology (DUT) play a pivotal role in contributing to the institution's sustainable development goals. Their entrepreneurial activities, particularly in sectors like technology, social innovation, and environmental sustainability, align with broader global efforts toward sustainable development. These entrepreneurs bring fresh perspectives and innovative solutions to challenges, addressing both local and global needs. Their involvement in the sustainable development programme highlights the potential of youth-led ventures in promoting economic sustainability while also tackling social and environmental issues.

However, the integration of these entrepreneurial initiatives into DUT's formal sustainable development strategy remains inconsistent. While some student businesses actively incorporate sustainability principles, others focus solely on profit without much regard for sustainable practices. There is an opportunity for DUT to better structure its support for student entrepreneurs to ensure their businesses align more closely with the sustainable development agenda. This could involve providing more targeted resources, guidance, and mentorship on sustainability practices within the university's entrepreneurial support framework.

## **Research Question 2: What are the detriments to the success of youth entrepreneurs at DUT?**

The success of youth entrepreneurs at DUT is shaped by several critical elements. Access to financial resources is one of the most prominent factors, with many students identifying the challenge of securing funding as a barrier to business success.

Entrepreneurial education, including courses and workshops, equips students with the skills and knowledge necessary for managing successful businesses. In addition, mentorship programmes provide youth entrepreneurs with industry insights and guidance needed to navigate challenges, making access to experienced mentors a crucial determinant.

Furthermore, networking opportunities within and outside the university are essential for the growth and success of student businesses. Many successful youth entrepreneurs have benefited from networks that offer exposure to potential investors, clients, and business partners. The availability of business incubation services at DUT also plays a role in helping student entrepreneurs refine their business ideas and strategies. Overall, the combination of financial support, mentorship, education, and networking forms the foundation for entrepreneurial success among youth at DUT.

## **Research Question 3: What are the factors affecting youth entrepreneurs at DUT?**

Youth entrepreneurs at DUT face a variety of challenges that importantly affect their entrepreneurial journey. One of the primary obstacles is financial constraints, as many students struggle to find adequate funding to start or expand their businesses. In addition, limited access to markets hampers the ability of these entrepreneurs to scale their ventures. Without proper market access, even the most innovative ideas can fail to gain traction, resulting in slow business growth or failure. This lack of market exposure is a key factor affecting the success of youth entrepreneurs at DUT.

Another important factor is the insufficient availability of ongoing mentorship and support structures. While initial guidance may be available, many student entrepreneurs feel unsupported in the long term, making it difficult to sustain their ventures. The complexity of managing business operations, such as financial planning and navigating legal

requirements, also poses challenges for youth entrepreneurs. Addressing these factors through comprehensive support programmes and better access to resources would enhance the prospects for youth entrepreneurship at DUT.

#### **Research Question 4: What is the role of DUT education in promoting youth entrepreneurship?**

DUT's educational programmes play a fundamental role in fostering entrepreneurship among students. Through various entrepreneurship courses and workshops, students gain essential skills in business management, innovation, and leadership. These programmes are designed to provide both theoretical understanding and practical tools that prepare students for the real-world demands of entrepreneurship. As a result, students who engage in these educational initiatives often feel more confident in launching and managing their own businesses, showing that education importantly promotes entrepreneurship at DUT.

However, while the entrepreneurship curriculum is beneficial, there is a need for more hands-on experiences that bridge the gap between theory and practice. Many students express a desire for more opportunities to apply their learning through real-world projects, internships, and interactions with successful entrepreneurs. Enhancing these practical experiences within the educational framework could better equip students to face the challenges of entrepreneurship. Additionally, more structured support, such as access to incubation centres and business mentors, would further reinforce the university's role in promoting and sustaining student entrepreneurship.

### **6.3 Conclusions**

Proper training in entrepreneurship positively influences students' entrepreneurial intentions. It emphasised the need for targeted educational programmes that provide practical training, mentorship, and exposure to real-world entrepreneurial experiences to enhance students' entrepreneurial skills and motivations. Youth entrepreneurs from DUT possess the skills, knowledge, and resources necessary to make a meaningful contribution to poverty alleviation efforts. This aligns with the notion that entrepreneurship can play a crucial role in creating jobs, generating income, and driving

economic development, which can ultimately lead to poverty reduction.

## **6.4 Recommendations**

In light of the findings from the study, several strategic recommendations can be made to enhance the entrepreneurial landscape for youth entrepreneurs at DUT. These recommendations aim to address the gaps identified in the research and provide actionable steps to foster sustainable entrepreneurial growth among youth entrepreneurs. Below are tailored recommendations for each research objective, aimed at improving the support systems and opportunities available to youth entrepreneurs at DUT.

### **Objective 1: To examine the role of youth entrepreneurs in the sustainable development programme at DUT**

#### **Integrate Sustainability into Entrepreneurial Curriculum**

DUT should embed sustainability-focused modules within its entrepreneurship programmes to ensure that youth entrepreneurs are equipped with knowledge on sustainable business practices. By integrating sustainability into the core entrepreneurial curriculum, students will be encouraged to develop business ideas that not only focus on profitability but also address social and environmental challenges. This would promote long-term sustainable development while aligning their ventures with global sustainability goals.

#### **Provide Targeted Support for Sustainable Ventures**

The university should create a dedicated support system for student entrepreneurs who focus on sustainability, offering resources such as mentorship from experts in sustainable development, access to funding for green initiatives, and partnerships with organizations promoting sustainability. Establishing a "Green Entrepreneurship Hub"

within DUT's existing entrepreneurial infrastructure could provide tailored assistance for those aiming to make an impact on sustainable development.

## **Objective 2: To identify the determinants of the success of youth entrepreneurs at DUT**

### **Increase Access to Funding and Financial Support**

DUT should collaborate with financial institutions, venture capitalists, and government programmes to increase funding opportunities for student entrepreneurs. Providing seed funding, micro-loans, and grants for innovative student businesses would ease the financial barriers many students face. Additionally, the university could establish a student entrepreneurship fund aimed at supporting promising ventures initiated by youth entrepreneurs on campus.

### **Expand Mentorship and Networking Opportunities**

The university should expand its mentorship programmes by connecting youth entrepreneurs with industry leaders and alumni entrepreneurs who can provide ongoing guidance. Establishing more structured networking events, where students can interact with successful business owners and investors, would help them build essential relationships, gain insights, and access new opportunities. Regular networking platforms such as business pitch competitions or entrepreneur forums can be organized to encourage student involvement in the entrepreneurial ecosystem.

## **Objective 3: To analyse the factors affecting youth entrepreneurs at DUT**

### **Improve Market Access and Exposure Opportunities**

DUT should partner with local and international business organizations to provide

student entrepreneurs with greater market exposure. This could involve organizing trade fairs, startup exhibitions, and online marketplaces where student businesses can showcase their products and services to a wider audience. The university can promote youth entrepreneurs by creating an on-campus platform where students can sell their products to the university community and beyond would also boost their market access and help them refine their offerings.

### **Offer Comprehensive Business Support Programmes**

To mitigate the challenges associated with running a business, DUT could implement comprehensive support programmes that offer continuous training on business management, legal compliance, and financial planning. Establishing business incubators and accelerator programmes within the university would give youth entrepreneurs access to professional services, mentorship, and workspace for further growth. Ongoing support structures would ensure that students are not left without guidance after launching their businesses.

### **Objective 4: To determine the role of DUT education in promoting youth entrepreneurship**

#### **Enhance Practical Learning Opportunities**

DUT should increase opportunities for hands-on entrepreneurial experience by integrating real-world projects into its curriculum. This could include collaboration with established businesses where students take part in internships or consultancy projects to develop their skills in managing real-life business challenges. The university can also set up student-run businesses within the campus to allow students to gain first-hand entrepreneurial experience while still studying.

## **Establish Entrepreneurial Support Units within Academic Programmes**

The university should create dedicated entrepreneurial support units within each faculty to encourage student entrepreneurship across all disciplines. These units would provide discipline-specific resources, advice, and training on how students can apply their field of study to entrepreneurial endeavours. DUT can offer tailored support to students in different faculties; the university would foster a more inclusive and diverse entrepreneurial environment.

**Objective 5: To recommend intervention strategies that can be employed to enhance youth entrepreneurship at DUT.**

**Incorporate design thinking into the Higher Education Institution curriculum to foster innovation.**

An intervention is recommended to incorporate design thinking into the Higher Education Institution curriculum to foster innovation. All academic disciplines at DUT should integrate entrepreneurship. By embedding entrepreneurship modules into engineering, health sciences, arts and design, Accounting and Informatics, students will be exposed to entrepreneurial thinking within the context of their chosen fields. For example, engineering students could explore how to commercialize innovative prototypes, health science students could learn about launching healthcare start-ups or community clinics, while arts students could study creative entrepreneurship and cultural enterprises. This cross-disciplinary approach ensures that every graduate, regardless of field, is equipped with the knowledge, mindset, and skills to identify opportunities and contribute to the economy either as entrepreneurs or intrapreneurs within organizations.

## **Problem-based and Experiential Learning Approaches**

To make entrepreneurship education meaningful, teaching should go beyond theory and adopt **problem-based and experiential learning approaches**. Students should engage in real-world projects, case studies, hackathons, and community engagements where they apply entrepreneurial theories to practical challenges. For instance, instead of purely learning business plan in a classroom, students could work with local SMEs or non-profit organizations to co-create solutions for sustainability, digital transformation, or market expansion. This hands-on exposure allows students to test ideas, learn from failure, and develop resilience, creativity, and critical thinking. Moreover, partnerships with industry and community organizations can provide mentorship, internships, and incubation opportunities, ensuring that students not only learn about entrepreneurship but actively practice it within their respective contexts.

### **6.5 Contributions to Knowledge**

The study identifies that DUT plays an important role in motivating students toward entrepreneurship and sustainable development. This is crucial knowledge that emphasises the positive influence of educational institutions on fostering an entrepreneurial mindset among students. The contributions of this research extend beyond merely identifying the challenges faced by youth entrepreneurs at Durban University of Technology (DUT) and delve into a comprehensive understanding of how these challenges can be transformed into opportunities for innovation and growth. This study elucidates the multifaceted role of youth entrepreneurship in sustainable development, highlights the determinants of success for youth entrepreneurs, examines the factors influencing their entrepreneurial journey, and assesses the educational frameworks that can promote entrepreneurial activities. The following sections outline the key contributions of new knowledge derived from the analysis of the objectives.

## **Understanding the Role of Youth Entrepreneurs in Sustainable Development**

The study emphasises the pivotal role youth entrepreneurs play in driving sustainable development initiatives within the DUT community. By integrating sustainability into their entrepreneurial ventures, youth entrepreneurs can contribute positively to environmental conservation and social responsibility. This finding underscores the necessity for educational institutions to prioritize sustainability in entrepreneurship programmes, aligning students' business activities with global sustainability goals. Furthermore, the research suggests that fostering a culture of sustainability among youth entrepreneurs not only enhances their marketability but also positions DUT as a leader in promoting responsible entrepreneurship. This perspective adds a vital dimension to the existing literature on entrepreneurship education, highlighting the intersection between entrepreneurial activities and sustainable development.

## **Determinants of Success for Youth Entrepreneurs**

Another important contribution of this research is the identification of critical determinants that influence the success of youth entrepreneurs at DUT. The study reveals that access to financial resources, mentorship, and networking opportunities are paramount for entrepreneurial success. By outlining specific determinants, this research contributes to the broader understanding of entrepreneurship in a university context, offering actionable insights that can be implemented to improve entrepreneurial outcomes. The focus on financial support mechanisms, such as the establishment of dedicated funds and collaborations with financial institutions, adds a novel approach to the discourse on entrepreneurship education. This contribution emphasizes the need for academic institutions to actively participate in creating an enabling environment for youth entrepreneurs, thus addressing a gap in existing literature regarding institutional responsibility in fostering entrepreneurial ecosystems.

## **Factors Affecting Youth Entrepreneurs**

The exploration of factors affecting youth entrepreneurs at DUT provides new knowledge by highlighting specific barriers they encounter. The findings point to limited market access and insufficient practical experience as important challenges. By advocating for the establishment of trade fairs and incubators, the research introduces practical solutions that institutions can adopt to mitigate these barriers. This contribution aligns with the growing body of knowledge emphasizing the importance of experiential learning in entrepreneurship education. Moreover, the identification of these factors enhances the understanding of the youth entrepreneurship landscape in South Africa, providing a foundation for further research and policy development aimed at supporting young entrepreneurs in similar contexts.

## **Promoting Entrepreneurship Through Education**

The study also contributes to the understanding of the role of education in promoting entrepreneurship among youth. It advocates for enhanced practical learning opportunities and the establishment of entrepreneurial support units within academic programmes. By doing so, it challenges traditional educational paradigms that prioritize theoretical knowledge over practical application. This recommendation reflects a shift in educational philosophy, promoting a more integrated approach to entrepreneurship education that prepares students to navigate the complexities of the entrepreneurial landscape effectively. The emphasis on practical experience enriches the existing discourse on entrepreneurship education, underscoring the need for universities to change their curricula to meet the demands of a rapidly changing economic environment.

This research contributes importantly to the body of knowledge surrounding youth entrepreneurship within the context of higher education. By examining the intricate relationships between student entrepreneurship, sustainable development, and educational frameworks, the study provides a holistic perspective that can inform policy and practice. The recommendations derived from the findings offer actionable insights for institutions aiming to enhance their support for youth entrepreneurs, ultimately contributing to a more vibrant and sustainable entrepreneurial ecosystem. Furthermore, the emphasis on sustainability, practical learning, and support mechanisms establishes a foundation for future research, encouraging scholars to explore the dynamic interplay between education, entrepreneurship, and social responsibility. Through this exploration, the study not only enriches the academic discourse but also catalyses positive change in the entrepreneurial landscape for youth at DUT and beyond.

## **6.6 Recommendations for further study**

Based on the findings presented in the previous results, here are some recommendations for further study:

### **Recommendation One:**

- ✓ Conduct a comparative analysis of the perceptions and attitudes towards entrepreneurship and sustainable development among students and youth entrepreneurs in other universities or educational institutions. This will help identify similarities and differences in the perspectives and experiences of students from different contexts, enabling a broader understanding of the role of entrepreneurship in sustainable development.

### **Recommendation Two:**

- ✓ Conduct a longitudinal study to track the perceptions and attitudes of students and youth entrepreneurs at DUT over an extended period. This will provide insights into any changes in their perspectives over time and help assess the long-term effectiveness of entrepreneurship education and support systems in fostering sustainable development mindsets.

### **6.7 Conclusion**

Analysing business longevity and entrepreneurial success, policymakers, educators, and stakeholders at DUT can develop comprehensive support systems tailored to the unique needs of youth entrepreneurs. Nurturing their ventures and promoting their long-term sustainability can contribute to economic growth, job creation, and foster an environment conducive to entrepreneurial development.

The study shapes stakeholders' understanding of the implications of race, entrepreneurship, and sustainable development. Policymakers, educators, and stakeholders at DUT can gain a comprehensive understanding of the role of entrepreneurship education in shaping the experiences and potential of youth entrepreneurs. This understanding can inform the development of inclusive policies, support programs, and initiatives that foster equitable opportunities for entrepreneurial success among individuals from diverse racial backgrounds.

Finally, by referencing previous studies on entrepreneurship education and sustainable development, DUT can gain insights into best practices and strategies adopted by other institutions. This can inform the university's efforts to continuously improve its entrepreneurship ecosystem, curriculum, and support mechanisms, ultimately maximizing the positive impact of student-led businesses on sustainable development.

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## ANNEXURES

### Annexure A: Ethical Clearance Certificate



18 November 2021

Ms M-A N Nhlleko  
525 Smith Street  
Durban  
4000

Dear Ms Nhlleko

**The Role of Youthful Entrepreneurs in the Sustainable Development Programme at the Durban University of Technology**  
**Ethical Clearance number IREC 140/21**

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the IREC acknowledges receipt of your gatekeeper permission letter.

Please note that **FULL APPROVAL** is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

Dr K. Padayachy  
Deputy Chairperson: IREC

## Appendix B: Letter of information



### LETTER OF INFORMATION

**Title of the Research Study:** The Role of Youth Entrepreneurs in the Sustainable Development Programme at the Durban University of Technology (DUT)

**Principal Investigator/s/researcher:** Mary-ann Nokulunga Nhleko, PhD, Management Sciences

**Co-Investigator/s/supervisor/s:** (Prof Jamila Adam, D-Tech)

**Brief Introduction and Purpose of the Study:** The aim of this study is to explore the role of youthful entrepreneurs in the sustainable development programme at the Durban University of Technology with the view to developing a framework that can be used to enhance student entrepreneurs as an approach to sustainable development.

**Greeting** (Dear participant).

**Introduce yourself to the participant** (I am a PhD student at DUT doing research for my degree in Business Administration)

**Invitation to the potential participant** (I would like to invite you to participate in the research)

**What is Research** (Research is a systematic search or enquiry for generalized new knowledge)

- **Outline of the Procedures:** The goal of this study is to examine the role of youth student entrepreneurs in the sustainable development programme at DUT. Hence, mixed method of research will be used to acquire the information that can enable the inferences and decisions to be drawn. In this regard, the respondents will be subjected to an interview wherein they will be handed that questionnaire that can aid the attainment of data required for this study. Moreover, the respondent's participation is voluntary as they can discontinue their commitment in the study where they feel bothersome or inconvenient. Should there be any information regarding this study or unclear queries as well as the inclusion or the exclusion of ideas from the side of the participants, the investigator together with research assistant are free to be consulted for clarification at given time. In addition, the qualitative data collected will be analysed using a thematic data analysis approach to transcribe evidence recorded during the interview into the word format type. The quantitative analysis in the form of descriptive and inferential statistics will be conducted using SPSS 25.0 on the information from the respondents. Likewise, there will be no special preference or treatment that will be accrued with to or expected from the participants. The duration of time allotted for the respondent's participation in this study is 15 minutes. Above and beyond this, the envisage numbers of respondents needed for this study is 253 as they postulated to be adequate to produce the data needed for this study.

**Risks or Discomforts to the Participant:** (There are no anticipated risks or discomfort by participating in the study.

**Explain to the participant the reasons he/she may be withdraw from the Study:**  
(The process of collecting data is purely voluntary and you may withdraw from the

research at any time and for any reason. There will be no adverse consequences for withdrawal.

**Benefits:** (The study will make an important contribution to DUT student entrepreneurs. You will be able to address areas of improvement.)

**Remuneration:** (There is no remuneration for participating in the research study)

**Costs of the Study:** (No costs will be incurred from you for this study)

**Confidentiality:** (Your confidentiality and anonymity will be maintained, hence there is no name on the questionnaires. All information provided by you will remain confidential and be kept safe and

destroyed after the study has been concluded.)

**Results:** (The study will implement mixed method to elicit information needed for this research, hence questionnaire will be disseminated, and the participants will be interviewed.)

**Research-related Injury:** (There is no anticipated research-related injury expected in participating in the study.)

**Storage of all electronic and hard copies including tape recordings** (All materials and documents will be kept for a 5-year period as per document management policy and destroyed by shredding hard copies and deleting all electronic copies and voice recordings.)

**Persons to contact in the Event of Any Problems or Queries:** (Please contact the researcher (Mary-Ann Nhleko on 0726323258), my supervisor, (Professor Jamila Adām on 0827860683) the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the

Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or [researchdirector@dut.ac.za](mailto:researchdirector@dut.ac.za).

## Appendix C: Consent



### CONSENT

**Full Title of the Study:** The Role of Youth Entrepreneurs in the Sustainable Development Programme at the Durban University of Technology DUT

**Names of Researcher/s:** Mary-ann Nhleko

Statement of Agreement to Participate in the Research Study:

I hereby confirm that I have been informed by the researcher, (M Nhleko about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number:140/21.

- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.



***Please note the following:***

Research details must be provided in a clear, simple and culturally appropriate manner and prospective participants should be helped to arrive at an informed decision by use of appropriate language (grade 10 level- use Flesch Reading Ease Scores on Microsoft Word), selecting of a non- threatening environment for interaction and the availability of peer counselling (Department of Health, 2004).

If the potential participant is unable to read/illiterate, then a right thumb print is required and an impartial witness, who is literate and knows the participant e.g. parent, sibling, friend, pastor, etc. should verify in writing, duly signed that informed verbal consent was obtained (Department of Health, 2004).

If anyone makes a mistake completing this document e.g. a wrong date or spelling mistake, a new document has to be completed. The incomplete original document has to be kept in the participant's file and not thrown away, and copies thereof must be issued to the participant.

***References:***

Department of Health: 2004. *Ethics in Health Research: Principles, Structures and Annexure B* Department of Health. 2006. *South African Good Clinical Practice Guidelines*. 2nd Ed. Available at: [http://www.nhrec.org.za/?page\\_id=14](http://www.nhrec.org.za/?page_id=14)

6 August 2020

## Appendix D: Gatekeepers' letter



Directorate for Research and Postgraduate Support  
Durban University of Technology  
Tomaso Ameni, Steve Biko Campus  
P.O. Box 1334, Durban 4000  
Tel: 031-3732576/7  
Fax: 031-3732946

29<sup>th</sup> October 2021  
Ms Nokulunga M Nhleko  
c/o Department of Entrepreneurial Studies and Management,  
Faculty of Management Sciences  
Durban University of Technology

Dear Ms Nhleko

### PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted **Gatekeeper Permission** for you to conduct your research "The role of Youthful Entrepreneurs in the Sustainable Development Programme at the Durban University of Technology (DUT)." at the Durban University of Technology. **Kindly note that this letter must be issued to the IREC for approval before you commence data collection.**

The DUT may impose any other condition it deems appropriate in the circumstances having regard to nature and extent of access to and use of information requested.

We would be grateful if a summary of your key research findings would be submitted to the IRIC on completion of your studies.

Kindest regards,  
Yours sincerely

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DR LINDA ZIKHONA LINGANISO  
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE

## Appendix E: RESEARCH QUESTIONNAIRE

**TOPIC: THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE DEVELOPMENT PROGRAMME AT THE DURBAN UNIVERSITY OF TECHNOLOGY (DUT)**

**QUESTIONNAIRE**

**PLEASE INDICATE YOUR ANSWERS BY PLACING A CROSS (X) IN THE APPROPRIATE COLUMN**

### SECTION A: DEMOGRAPHIC FACTORS

The following questions relate to your biographic profile and also involve questions to do with relationship between yourself and the business

#### A 1. To which sector does your business belong?

1.1	Agriculture		1.6	Catering and Accommodation	
1.2	Manufacturing		1.7	Transport storage and communication	
1.3	Construction		1.8	Finance and business services	
1.4	Retailing, and Motor trade and Repairs services		1.9	Community and Personal services	
1.5	Wholesale commercial agents and allied services		1.10	other	

#### A 2. No. of (full-time) employees

2.1	21 to 50 employees	
2.2	51 to 100 employees	
2.3	101 to 150 employees	
2.4	151 to 200 employees	
2.5	Above 200 employees	

#### A 3. Please indicate the age group to which you belong in?

3.1	25 years and below	
3.2	26 to 35 years	
3.3	36 to 45 years	
3.4	46 to 55 years	
3.5	56 to 65 years	
3.6	66 years and above	

#### A 4. Please indicate your gender

4.1	Male	
4.2	Female	

#### A 5. Indicate your population group

5.1	African	
5.2	White	
5.3	Indian	
5.4	Asian	
5.5	Other	

#### A 6. How long have you owned your current enterprise?

6.1	Less than 5 years	
6.2	Between 5 and 10 years	
6.3	Between 11 and 15 years	
6.4	Between 16 and 20 years	
6.5	Over 20 years	

**A 7. Indicate your highest level of formal education**

7.1	Up to Grade 12/ Std 10	
7.2	Diploma/ Degree	
7.3	B-Tech/ Honours	
7.4	M-Tech/Masters/MBA	
7.5	D-Tech/ Doctorate	

**Section B: To examine the role of youth entrepreneurs in the sustainable development programme at DUT**

**B1. Please indicate the importance of each of the following statements regarding the role of youth entrepreneurs in the sustainable development programme at DUT**

	Source	Very important	Important	Neutral	Unimportant	Very unimportant
B1.1	Youth entrepreneurs play a crucial role in fostering innovation and promoting sustainable business practices at DUT.	1	2	3	4	5
B1.2	The participation of youth entrepreneurs enhances the university's capacity to contribute to local economic development through sustainable entrepreneurship.	1	2	3	4	5
B1.3	Youth entrepreneurs contribute to solving real- world challenges by integrating sustainability into their business models and initiatives.	1	2	3	4	5
B1.4	The involvement of youth entrepreneurs in sustainability programs increases awareness of environmental, social, and economic sustainability on campus.	1	2	3	4	5
B1.5	Youth entrepreneurs are pivotal in creating job opportunities and driving sustainable economic growth within the DUT community.	1	2	3	4	5

B1.6	Youth entrepreneurs help bridge the gap between academic knowledge and practical sustainable development through their entrepreneurial ventures	1	2	3	4	5
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B2. How often do you attend youth entrepreneurial conferences?

B2.1	More Frequently	
B2.2	Occasionally	
B2.3	Rarely	
B2.4	Never	

**SECTION C: To identify the determinants of sustainable development programme in young entrepreneurial ecosystems**

C1. Please indicate your level of agreement with the following statements using the scale below.

	Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
C1.1	The availability of funding and financial support is a key determinant of the success of sustainable development programs in youth entrepreneurial ecosystems.	1	2	3	4	5
C1.2	Access to mentorship and expert guidance significantly influences the effectiveness of sustainable development initiatives for youth entrepreneurs.	1	2	3	4	5
C1.3	Networking opportunities and partnerships within the entrepreneurial ecosystem are crucial for advancing sustainable development programs.	1	2	3	4	5
C1.4	Educational resources and training specific to sustainability play a major role in the implementation and impact of development programmes for youth entrepreneurs.	1	2	3	4	5
C1.5	Government policies and regulatory frameworks are important determinants in shaping the success of sustainable development programmes in youth entrepreneurial ecosystems.	1	2	3	4	5
C1.6	The level of community engagement and support from local stakeholders is a critical factor in determining the effectiveness of sustainable development efforts in youth entrepreneurial settings.	1	2	3	4	5

**Section D: To analyse the metrics used to measure sustainable development programme in youth entrepreneurial ecosystem**

**D1. Please rate the applicability of the following sustainable development programme in youth entrepreneurial ecosystem using the scale below.**

	<b>Metric</b>	<b>Very applicable</b>	<b>Applicable</b>	<b>Neutral</b>	<b>Unapplicable</b>	<b>Very unapplicable</b>
D1.1	Economic Impact	1	2	3	4	5
D1.2	Environmental Impact	1	2	3	4	5
D1.3	Social Impact	1	2	3	4	5
D1.4	Entrepreneurial Growth	1	2	3	4	5
D1.5	Innovation Output	1	2	3	4	5
D1.6	Skill Development	1	2	3	4	5
D1.7	Funding and Investment	1	2	3	4	5
D1.8	Program Participation Rates	1	2	3	4	5
D1.9	Mentorship and Networking Outcomes	1	2	3	4	5
D1.10	Sustainability Reporting and Compliance	1	2	3	4	5

**D2. Please indicate the trend in the following metrics in your business performance.**

	<b>Metric</b>	<b>Decrease</b>	<b>Neutral</b>	<b>Increase</b>
D2.1	Economic Impact	1	2	3
D2.2	Environmental Impact	1	2	3
D2.3	Social Impact	1	2	3
D2.4	Entrepreneurial Growth	1	2	3
D2.5	Innovation Output	1	2	3
D2.6	Skill Development	1	2	3
D2.7	Funding and Investment	1	2	3
D2.8	Program Participation Rates	1	2	3
D2.9	Mentorship and Networking Outcomes	1	2	3
D2.10	Sustainability Reporting and Compliance	1	2	3

**Section E: To determine the role of DUT education in promoting youth entrepreneurship**

E1. Please indicate your level of agreement with the following statements using the scale below.

	<b>Statements</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
E1.1	DUT education provides comprehensive entrepreneurship training that equips students with the skills necessary to start and manage their own businesses.	1	2	3	4	5
E1.2	The curriculum at DUT includes practical experiences and projects that enhance students' entrepreneurial capabilities and real-world application.	1	2	3	4	5
E1.3	DUT offers robust support services, such as mentoring and business incubators, which significantly aid students in developing and launching their entrepreneurial ventures.	1	2	3	4	5
E1.4	Educational programs at DUT emphasize innovation and creativity, encouraging students to explore and pursue entrepreneurial opportunities.	1	2	3	4	5
E1.5	DUT facilitates networking opportunities with industry professionals and entrepreneurs, which helps students gain valuable insights and connections for their business endeavors.	1	2	3	4	5
E1.6	The university's focus on entrepreneurship education fosters a culture of entrepreneurial thinking and problem-solving among students, leading to increased entrepreneurial activity.	1	2	3	4	5

Thank you!!!

## Appendix F: Interview Schedule



### PART 1: DEMOGRAPHIC DATA

1. Gender

1. Male	
2. Female	
3. Other	

2. Age: .....

3. Race: .....

4. Highest Qualification: .....

5. Years in Business: .....

6. Number of employees: .....

### PART 2:

### STANDARDISED OPEN-ENDED INTERVIEW GUIDE

The Role of Youth Entrepreneurs in the Sustainable development Programme at the Durban University of Technology (DUT).

Participant(s)	ITEMS/Themes	Research strategy
	<p>1. As a Youth student at DUT, what are your views on the role of youth entrepreneurs in sustainable development?</p> <p>2. What are the main factors that you think affect DUT youth Entrepreneurs?</p>	

<p>Youth student Entrepreneurs</p>	<p>3. As a student entrepreneur at DUT, are you able to spot and utilize business opportunities?</p> <p>4. What actions can be presented by DUT youth entrepreneurs to reduce poverty?</p>	<p>Face-to-face in-depth interview</p>
	<p>5. In your own opinion what should be done by DUT to improve youth entrepreneurs in such a way that leads to sustainable development?</p> <p>6. As a youth entrepreneur, which components do you use to measure your impact on the sustainable development of your community?</p> <p>7. What are the recommendations that can be employed to enhance youth entrepreneurs at DUT?</p>	

## Appendix G: Ethical Training Certificate



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## Appendix H: CERTIFICATE OF STATISTICAL REVIEW

### CERTIFICATE OF STATISTICAL REVIEW

#### TO WHOM IT MAY CONCERN

This is to certify that the statistical aspects of the thesis titled "THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE DEVELOPMENT PROGRAMME AT THE DURBAN UNIVERSITY OF TECHNOLOGY," authored by Mary-Ann Nokulunga Nhleko, have been rigorously reviewed and verified by Dr. Tinaye Mahohoma, a certified statistician.

Dr. Mahohoma has examined the statistical methodologies, data analysis techniques, and interpretation of results in the thesis. His expertise ensures the accuracy and reliability of the statistical information presented in the document.

This certificate is issued to acknowledge Dr. Mahohoma valuable contribution to maintaining the highest standards of statistical rigor in academic research.

30 March 2023

Signature

Date

Dr Tinaye Mahohoma

Post Doc Fellowship

Durban University of Technology

## Appendix I: Editing and Proof-Reading Certificate

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OF TECHNOLOGY

**AUTHOR:** MARY-ANN NOKULUNGA NHLEKO

**DATE ISSUED:** 01 December 2023

This is to certify that the thesis titled "THE ROLE OF YOUTH ENTREPRENEURS IN THE SUSTAINABLE DEVELOPMENT PROGRAMME AT THE DURBAN UNIVERSITY OF TECHNOLOGY," authored by Mary-Ann Nokulunga Nhleko, has been professionally proofread and edited by Ms. Blessing Sungai of IT Solutions.

Ms. Sungai's expertise and attention to detail have significantly contributed to enhancing the overall quality, clarity, and coherence of the thesis. This certificate attests to the thorough review and refinement of the manuscript, ensuring that it meets the highest standards of academic writing and effectively communicates the research findings.

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