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Research done on the effects of the Entrepreneurial Training for students who intend to become Entrepreneurs.

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***Abstract* – This Study examines the multifaceted effects of entrepreneurship training programs on student entrepreneurs, analyzing how structured learning experiences shape their mindsets, competencies, and readiness for business ownership. The study draws on existing literature and theoretical frameworks to assess both the immediate and long-term impacts of such training on aspiring entrepreneurs at the tertiary and post-secondary levels. The population under study will comprise of 150 learners from Shifwankula secondary school of Lusaka district making the total of 150 participants. Purposive sampling technique was used for 150 Business studies grade 12 learners in order to give every learner an equal chance to be studied , Questionnaires were used to collect data from learners. Findings consistently indicate that entrepreneurship training significantly enhances students' entrepreneurial intention, self-efficacy, and opportunity recognition skills. Students who undergo formal entrepreneurship education demonstrate higher levels of creativity, critical thinking, and risk tolerance compared to those without such exposure. Furthermore, training programs that incorporate experiential learning, mentorship, and real-world business simulations tend to produce the most pronounced positive outcomes, bridging the gap between theoretical knowledge and practical application. The study also highlights that entrepreneurship training fosters the development of essential soft skills, including leadership, communication, negotiation, and resilience all of which are critical for sustainable business success. Additionally, trained student entrepreneurs are more likely to develop viable business plans, access start up funding, and navigate market challenges effectively. However, the effectiveness of training is found to vary depending on program design, instructor expertise, institutional support, and cultural context.**

***Keywords* – Entrepreneurship Training, Entrepreneur, Entrepreneurial Intention, Self-Efficacy, Opportunity Recognition, Experiential Learning, Risk Tolerance, Business Plan, Startup Funding, Mentorship.**

I. INTRODUCTION

Today, there are so many articles expressing the social, economic and educational benefits of entrepreneurship. Some articles explain the factors that affect one's decision to be an entrepreneur. As a result, there are so many different views and opinions on the matter but one thing is clear; Entrepreneurial Education does have an effect on the decision of an individual to be an entrepreneur. The debates and different views go as far as back as the twentieth century in the times of Schumpeter and other sociologists. Even today, policy makers as well as researchers do agree with the thinking that Entrepreneurship Education has an effect on Entrepreneurial Intention. Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Background of the Study

Entrepreneurship has increasingly been recognized as a critical driver of economic growth, employment creation, innovation, and social development by identifying and utilizing opportunities to bring in new products to the market by assuming major risks in terms of equity, time and/or career commitment across both developed and developing economies (Kuratko and Audretsh, 2008; Schumpeter and Backhaus, 1934; Carree and Thurik, 2010; Kirzner, 1997; Miller, 1983). Entrepreneurship can also be defined as the application of enterprise skills and ideas specifically to creating and/or growing a venture by identifying, evaluating and exploiting opportunities (Rae et al, 2012). An increase in a number of entrepreneurs leads to an increase in economic growth (Dejardin, 2000). In developing countries such as Zambia, entrepreneurship is viewed not only as a pathway to economic diversification but also as a strategic response to persistent challenges such as youth unemployment, poverty, and limited formal sector employment opportunities. As a result, governments, higher education institutions, and development partners have placed growing emphasis on entrepreneurship education and training as a means of equipping young people with the skills, attitudes, and competencies necessary to engage in entrepreneurial activity.

Entrepreneurship Education has evolved from a narrow focus on business start-up skills to a broader developmental process aimed at shaping entrepreneurial mindsets, intentions, and behaviors. In particular it has been considered one of the key instruments to increase the entrepreneurial attitudes of both potential and nascent entrepreneurs (Linan et al, 2025).Universities and high schools now integrate entrepreneurship courses and training

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programs into their curricula with the expectation that exposure to entrepreneurial knowledge and experiential learning will influence students' career choices and encourage self-employment. This shift is particularly relevant in Sub-Saharan Africa, where graduate unemployment remains high and the capacity of the formal sector to absorb university graduates continues to decline.

In Zambia, entrepreneurship education has been promoted as part of national development strategies aimed at fostering private sector growth and youth empowerment. Institutions of higher learning have introduced entrepreneurship-related courses across business and non-business faculties, reflecting the belief that entrepreneurial skills are transferable and applicable across disciplines. Despite these efforts, questions remain regarding the actual effectiveness of entrepreneurial training in shaping students' entrepreneurial intentions and whether such training leads to measurable changes in attitudes, perceived capabilities, and behavioral readiness for entrepreneurship.

Entrepreneurial intention has been widely acknowledged in the literature as a strong predictor of entrepreneurial behavior. Intention-based models suggest that individuals are more likely to engage in entrepreneurial activity when they possess favorable attitudes toward entrepreneurship, perceive social support for entrepreneurial behavior, and believe they have the capability to successfully start and manage a business. Consequently, understanding how entrepreneurial training influences these factors is essential for evaluating the impact of entrepreneurship education programs at the high school level.

This study focuses on students who intend to become entrepreneurs and examines the effects of structured entrepreneurial training on their entrepreneurial intentions. By adopting a longitudinal approach, the study assesses changes in students' attitudes, subjective norms, perceived behavioral control, and overall entrepreneurial intention before and after exposure to entrepreneurial training. The study is grounded in the Theory of Planned Behavior, which provides a robust framework for analyzing intention formation and behavioral change over time.

Statement of the Problem

Graduate unemployment continues to pose a significant socio-economic challenge in Zambia, with many university graduates struggling to secure formal employment upon completion of their studies. While entrepreneurship has been widely promoted as a viable alternative career path, relatively few graduates successfully transition from entrepreneurial intention to actual venture creation. This gap raises concerns about the effectiveness of entrepreneurship education and training programs offered by universities in preparing students for entrepreneurial careers.

Although entrepreneurial training has been incorporated into high school and university curricula, empirical evidence on its effectiveness in influencing students' entrepreneurial intentions remains mixed. Some studies suggest that entrepreneurship education positively influences attitudes and intentions, while others report minimal or insignificant effects. They show opposite results (Oosterbeek et al 2010).

Furthermore, many existing studies adopt cross-sectional designs, which limit the ability to capture changes in attitudes and intentions over time.

In the Zambian context, there is limited longitudinal empirical research examining how entrepreneurial training affects students who already express an intention to pursue entrepreneurship as a career. Without such evidence, policymakers and educational institutions lack adequate information to assess whether current entrepreneurship education initiatives are achieving their intended outcomes. This study seeks to address this gap by examining the effects of entrepreneurial training on entrepreneurial intention using a longitudinal quantitative design.

Objectives of the Study

The general objective of this study is to examine the effects of entrepreneurial training on students who intend to become entrepreneurs.

The specific objectives of the study were to:

1. Assess the effect of entrepreneurial training on students' personal attitudes toward entrepreneurship.
2. Determine the effect of entrepreneurial training on students' perceived behavioral control related to entrepreneurial activity.
3. Evaluate the overall effect of entrepreneurial training on students' entrepreneurial intention before and after training.

Research Questions

The study is guided by the following research questions:

1. What effect does entrepreneurial training have on students' personal attitudes toward entrepreneurship?
2. How does entrepreneurial training influence students' perceived subjective norms regarding entrepreneurship?
3. To what extent does entrepreneurial training influence students' overall entrepreneurial intention?

Significance of the Study

The findings of this study are expected to contribute to academic knowledge by providing empirical evidence on the effectiveness of entrepreneurial training in shaping entrepreneurial intention using a longitudinal approach. The study will also contribute to the application of the Theory of Planned Behavior within the context of entrepreneurship education in a developing economy.

From a policy perspective, the study will provide insights that can inform government efforts to promote youth entrepreneurship and refine national entrepreneurship education strategies. Educational institutions may use the findings to improve the design and delivery of entrepreneurship training programs, ensuring that they effectively foster entrepreneurial mindsets and capabilities among students.

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For students and aspiring entrepreneurs, the study will enhance understanding of how entrepreneurial training influences attitudes, perceptions, and readiness for entrepreneurship, thereby supporting informed career decision-making.

Scope of the Study

This study examines the effects of structured entrepreneurial training on the entrepreneurial intentions of learners who are preparing to transition from formal education into the world of work. Specifically, the research focuses on Grade 12 pupils at Shifwankula Secondary School of Chibombo District, Zambia, who take Principles of Accounts as a subject and participated in an organized entrepreneurship education program delivered within the school curriculum. The study investigates whether exposure to entrepreneurship training influences learners' attitudes, perceived behavioral control, confidence, and intentions toward starting and managing their own businesses.

The scope of the research includes measuring entrepreneurial intention and its key determinants both before and after the training intervention using a quantitative longitudinal survey design. Data are collected at two distinct points in time: prior to the delivery of entrepreneurship lessons (pre-training) and immediately after completion of the programme (post-training). This approach enables the researcher to assess changes attributable to the training and to determine whether entrepreneurship education positively influences learners' mindsets and career choices.

The study specifically covers cognitive, attitudinal, and behavioral dimensions of entrepreneurship, including learners' perceptions of self-employment, business knowledge, financial literacy, and confidence in identifying and exploiting opportunities. The analysis relies on structured questionnaires and statistical methods to evaluate measurable changes in responses across the two time periods. As such, the study emphasizes objective, quantifiable outcomes rather than subjective narratives.

Geographically, the research is confined to one public secondary school within Chibombo District, and institutionally it focuses only on pupils enrolled in Grade 12 classes during the study period who take Principles of Accounts. Conceptually, the study is grounded in the Theory of Planned Behavior, which posits that entrepreneurial behavior is influenced by personal attitudes, subjective norms, and perceived behavioral control (Ajzen, 2020). The scope therefore concentrates on these constructs and their relationship to entrepreneurial intention.

By defining these boundaries, the study provides a focused and manageable investigation into how entrepreneurship education can shape the career aspirations of secondary school learners within the Zambian educational context.

Delimitations of the Study

This study is subject to several deliberate delimitations that were established to ensure feasibility, manageability, and alignment with the research objectives. First, the research is limited to Grade 12 pupils at Shifwankula Secondary School and does not include learners from other schools, districts, or educational levels. This institutional focus allows for close monitoring of participants and consistent delivery of the training intervention but may restrict the generalizability of findings to other contexts.

Second, the study examines only formal, school-based entrepreneurship education delivered within the academic curriculum. Informal learning experiences, community-based training programmes, family business exposure, and extracurricular entrepreneurial activities are not included within the scope of analysis. Consequently, the findings reflect the effects of structured classroom instruction rather than broader experiential or community-driven forms of entrepreneurship learning.

Third, the study employs a quantitative research approach exclusively. Data are collected using structured questionnaires and analyzed statistically to measure changes in entrepreneurial intention and related constructs. Qualitative methods such as interviews, focus groups, and case studies are intentionally excluded. Although qualitative insights might provide deeper understanding of learners' experiences, the decision to rely solely on quantitative methods ensures objectivity, comparability, and ease of measuring change over time (Creswell & Creswell, 2018).

Fourth, the research is conducted within a limited time frame corresponding to one academic term. Long-term outcomes, such as whether learners actually establish businesses after graduation, are beyond the scope of this study. The investigation therefore measures intention rather than actual entrepreneurial behavior, recognizing that intentions are strong predictors of future actions (Liñán& Fayolle, 2018).

Finally, the study focuses only on the effects of entrepreneurship training and does not attempt to control for other external factors that may influence career decisions, such as family background, economic conditions, or access to capital. These factors are acknowledged but fall outside the boundaries of the present research.

These delimitations were intentionally set to maintain clarity, focus, and practical feasibility while still providing meaningful and reliable evidence regarding the impact of entrepreneurship education on secondary school learners.

Operational Definitions of Key Terms

- **Entrepreneurship Training:** structured educational program or curriculum designed to equip individuals with the knowledge, skills, attitudes, and practical tools needed to identify opportunities, create, manage, and

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grow a business venture. It may include formal coursework, workshops, boot camps, mentorship, and experiential learning activities.

- **Entrepreneur:** An individual who identifies a market need or opportunity, takes calculated risks, and organizes resources — including capital, labor, and technology to establish and operate a new business enterprise with the goal of generating profit and creating value.
- **Entrepreneurial Intention:** The personal commitment, motivation, and goal-directed desire of an individual to start or own a business in the future. It is considered a strong psychological precursor to actual entrepreneurial behavior and action.
- **Self-Efficacy:** An individual's belief in their own capacity to execute tasks and achieve specific goals. In the entrepreneurial context, it refers to a student's confidence in their ability to successfully launch and manage a business venture under varying conditions.
- **Opportunity Recognition:** The cognitive process by which an individual identifies, evaluates, and acts upon a business opportunity arising from changes in the market, technology, consumer needs, or societal trends.
- **Experiential Learning**: A pedagogical approach in which students acquire knowledge and skills through direct participation in real-world or simulated experiences, rather than passive instruction. Examples include internships, business plan competitions, and startup incubators.
- **Risk Tolerance:** The degree to which an individual is willing to accept uncertainty and potential financial or personal loss in pursuit of a business goal or entrepreneurial opportunity. Higher risk tolerance is commonly associated with successful entrepreneurs.
- **Business Plan:** A formal written document that outlines a business idea, its objectives, target market, value proposition, operational strategy, financial projections, and marketing plan. It serves as a roadmap for launching and managing a new venture.
- **Startup Funding:** The financial capital secured by early-stage businesses to support product development, operations, marketing, and growth. Sources may include personal savings, angel investors, venture capital, bank loans, grants, or crowd funding platforms.
- **Mentorship:** A developmental relationship in which an experienced entrepreneur or industry expert provides guidance, advice, feedback, and support to a less experienced student or aspiring entrepreneur to help them navigate business challenges and accelerate their professional growth

Organization of the Study

This dissertation is organized into seven chapters:
Chapter One presents the introduction and background of the study
Chapter Two reviews relevant literature and theoretical foundations.
Chapter Three presents the conceptual framework and hypotheses.
Chapter Four outlines the research methodology.
Chapter Five presents data analysis and results.
Chapter Six discusses the findings, while
Chapter Seven concludes the study and offers recommendation

II. LITERATURE REVIEW

Introduction to the Chapter

This chapter presents a systematic and critical review of the theoretical and empirical literature pertinent to the effects of entrepreneurship training on students who intend to become entrepreneurs. The review is organised into eight major sections. The first section traces the historical development of entrepreneurship education and training as a formal academic discipline. The second examines the major theoretical frameworks that have informed the study of entrepreneurial intentions and the impact of training on entrepreneurial behaviour. The third reviews the empirical literature on the effects of entrepreneurship training, organised by major outcome variable. The fourth explores the role of pedagogical approaches in determining training effectiveness. The fifth examines the moderating influences of institutional context and student characteristics. The sixth provides an international and comparative perspective on entrepreneurship education models. The seventh critically evaluates the methodological landscape of existing research. The eighth identifies key gaps in the literature that this study is designed to address.

Historical Development of Entrepreneurship Education.

The story of entrepreneurship education as a formal academic discipline is one of rapid, somewhat uneven, but ultimately transformative evolution. Its origins can be traced to a handful of pioneering institutions that, decades before entrepreneurship was widely accepted as a legitimate field of scholarly inquiry, recognised the possibility and value of preparing students for the creation and management of new ventures."),

The first course explicitly devoted to entrepreneurship in a university setting is generally attributed to Myles Mace, who introduced a course titled 'Management of New Enterprises' at Harvard Business School in 1947 (Katz, 2003). For many years, this course remained something of a curiosity within business education, largely overshadowed by the dominant paradigm of managerial education focused on preparing graduates for careers in large, established corporations. Entrepreneurship was viewed by many in the academic establishment as an innate trait rather than a teachable skill a perspective captured in the popular but now widely contested notion that 'entrepreneurs are born, not made.

The 1970s and 1980s marked a critical turning point. The publication of Kirzner's (1973) work on entrepreneurship and the market process, Schumpeter's posthumously influential ideas about the entrepreneur as a creative destroyer, and McClelland's (1961) research on the 'achievement motivation' that drives entrepreneurial

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behaviour collectively provided intellectual legitimacy to the study of entrepreneurship. Concurrently, Babson College's launch of its Centre for Entrepreneurship Studies in the 1970s and the establishment of the Kauffman Foundation in 1966 (which later became the world's most prominent funder of entrepreneurship research and education) created both institutional momentum and financial resources for the field's development."),

By the 1990s, entrepreneurship courses were proliferating rapidly across North American and European universities. What had been a handful of specialised programmes became, within a generation, a mainstream component of business education. Vesper and Gartner's (1997) survey documented the rapid growth of entrepreneurship education across the United States and noted the emergence of distinctly different curricular models — from elective add-on courses to dedicated entrepreneurship majors and minors, MBA specialisations, and technology commercialisation programmes linked to science and engineering departments."),

The 2000s saw the internationalisation of entrepreneurship education accelerate dramatically, driven partly by global policy emphasis on entrepreneurship as a response to unemployment and economic development challenges. The European Commission's 2006 Oslo Agenda for Entrepreneurship Education, the OECD's (2009) work on 'Entrepreneurship in Vocational Education and Training,' and UNESCO's sustained advocacy for entrepreneurship education as a component of quality education all contributed to the institutionalisation of entrepreneurship training as a global priority in education policy.

In Africa, the formal integration of entrepreneurship education into university curricula began to accelerate in the 2000s and 2010s, driven partly by the influence of international development frameworks and partly by the acute recognition, among African educators and policymakers, that the continent's universities were producing graduates who were well-credentialed but ill-equipped for the realities of an economy in which formal employment was scarce and self-employment was often a necessity. Initiatives such as the Youth Entrepreneurship Fund, the African Development Bank's Youth Entrepreneurship and Innovation (YEI) Multi-Donor Trust Fund, and various bilateral development cooperation programmes supported the establishment and expansion of entrepreneurship centres and programmes across Sub-Saharan African universities."),

Today, entrepreneurship education exists at virtually every level of the educational system, from primary school through postgraduate study, and in virtually every country in the world. Yet despite its ubiquity, fundamental questions about its design, delivery, and effectiveness remain actively debated among scholars, practitioners, and policymakers. The historical narrative of entrepreneurship education's growth thus provides not only context for the present study but also highlights the enduring urgency of the questions it seeks to answer.

Theoretical Frameworks

The Theory of Planned Behaviour (TPB).

The most widely applied theoretical framework in the study of entrepreneurial intention is undoubtedly Icek Ajzen's (1991) Theory of Planned Behaviour (TPB). Originally developed as a general psychological model of goal-directed behaviour, the TB was first applied to entrepreneurship by Krueger and Carsrud (1993) and has since been adopted, adapted, and empirically tested in hundreds of entrepreneurship studies spanning multiple countries and contexts."),

H.p("At its core, the TPB proposes that all intentional behaviours are determined by three antecedent constructs. The first is attitude toward the behaviour, defined as the degree to which an individual evaluates the behaviour in question — in this case, starting a business — as personally desirable. The second is subjective norms, which refers to the perceived social pressure or expectation from significant others (family, peers, mentors, role models) to engage in the behaviour. The third construct, perceived behavioural control (PBC), represents the individual's perception of their ability to successfully perform the behaviour, taking into account both internal capabilities (skills, knowledge) and external conditions (access to resources, institutional support). Ajzen argues that intention is a direct function of these three antecedents, with intention in turn being the most proximate determinant of actual behaviour."),

The application of TPB to entrepreneurship has proven remarkably productive. Linan and Chen (2009) validated a comprehensive psychometric instrument, the Entrepreneurial Intention Questionnaire (EIQ), for measuring the TPB constructs in an entrepreneurship context, and their instrument has been widely adopted in subsequent research. Meta-analyses by Schlaegel and Koenig (2014) and by van Gelderen et al. (2008) have confirmed the predictive validity of TPB across diverse entrepreneurial contexts, with attitude toward entrepreneurship and PBC consistently emerging as the strongest predictors of entrepreneurial intention."),

For the purposes of this study, the TPB provides a clear and empirically validated framework for conceptualising how entrepreneurship training might influence entrepreneurial outcomes. Training interventions can be expected to operate through each of the three TPB antecedents: by improving students' knowledge and skills (increasing PBC), by exposing them to the positive outcomes and social value of entrepreneurship (improving attitude), and by connecting them with entrepreneurial role models and peer communities (shaping subjective norms). The study therefore measures all three TPB constructs at pre- and post-training points in order to capture the full profile of training-induced change."),

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Entrepreneurial Event Theory.

Shapero and Sokol's (1982) Entrepreneurial Event Theory (EET) offers a complementary perspective on the antecedents of entrepreneurial action, with particular emphasis on the social and contextual factors that precipitate the decision to start a new venture. The EET proposes that a new venture is created when three conditions converge: first, the individual must perceive entrepreneurship as desirable; second, they must perceive it as feasible; and third, there must be a 'displacement' event a disruption in the individual's life trajectory (such as graduation, redundancy, or the appearance of an unexpected opportunity) that creates a propensity to act."),

The EET is significant for entrepreneurship education research because it highlights the role of perceived feasibility a construct closely related to Bandura's self-efficacy and Ajzen's perceived behavioural control as a key determinant of entrepreneurial action. It also draws attention to the importance of 'credibility' as a prerequisite for both desirability and feasibility perceptions: an individual must believe not only that starting a business is possible in general, but that they specifically have the capability to do so successfully. Entrepreneurship training, in the EET framework, functions primarily as a mechanism for building credibility and feasibility perceptions, while also potentially enhancing desirability by making students aware of the personal and social value that entrepreneurship can create."),

Social Cognitive Theory and Entrepreneurial Self-Efficacy

H.p("Albert Bandura's (1977, 1997) Social Cognitive Theory (SCT) is the third foundational theoretical framework incorporated into this study's conceptual model. SCT proposes that human behaviour is shaped by a continuous, reciprocal interaction between the person, the environment, and behaviour itself — a dynamic that Bandura terms 'reciprocal determinism.' Central to SCT is the construct of self-efficacy: an individual's belief in their capacity to execute the behaviours necessary to produce specific outcomes. Bandura (1997) identifies four principal sources of self-efficacy: mastery experiences (successfully completing a task), vicarious learning (observing others succeed), social persuasion (receiving positive feedback and encouragement from others), and physiological and emotional states (interpreting arousal as confidence rather than anxiety)."),

Chen, Greene, and Crick (1998) developed the construct of entrepreneurial self-efficacy (ESE) specifically to capture self-efficacy beliefs in the entrepreneurial domain, and the subsequent literature has demonstrated that ESE is one of the most robust predictors of entrepreneurial intention and behaviour (Zhao, Seibert & Lumpkin, 2010). The relevance of Bandura's self-efficacy theory to entrepreneurship training is direct and compelling: training programmes that incorporate mastery experiences (hands-on venture creation exercises), vicarious learning (mentoring and exposure to successful entrepreneurs), and social persuasion (constructive feedback and encouragement from instructors and peers) would be expected, on the basis of SCT, to produce the largest gains in ESE. The study tests this prediction empirically through comparative analysis of outcomes across different training formats."),

Bird's Intentionality Model",

Jeffry Bird's (1988) model of new venture intentionality extends Ajzen's TPB by emphasising the cognitive and temporal dimensions of entrepreneurial intention. Bird proposes that entrepreneurial intentions are formed through a deliberate, rational process of strategic reasoning about the future, in which the individual imagines a desired end-state (a successful business) and works backward to identify the actions and resources required to reach that end-state. This 'visioning' process is characterised by 'wholistic' thinking that integrates both analytical left-brain reasoning (business planning, financial analysis) and intuitive right-brain thinking (opportunity sensing, creative problem-solving).

The implications of Bird's model for entrepreneurship training are significant. If entrepreneurial intention is shaped by both rational analysis and creative vision, then effective training must develop both analytical business competencies and the imaginative, opportunity-sensing capacities that give direction and meaning to those competencies. Programmes that focus exclusively on business planning tools without cultivating students' creative and visionary thinking, or vice versa, are likely to be sub-optimal. This insight informs the study's measurement of both analytical and creative-visionary competency domains."),

Kolb's Experiential Learning Theory.

While not originally developed for entrepreneurship contexts, David Kolb's (1984) Experiential Learning Theory (ELT) has become one of the most influential frameworks in entrepreneurship education research. ELT proposes that learning is most effective when it proceeds through four stages: concrete experience (doing something), reflective observation (thinking about what was done), abstract conceptualisation (developing theories or generalisations from the experience), and active experimentation (testing the theories in new situations). This cycle of experience-reflection-conceptualisation-experimentation is posited by Kolb to produce deeper, more durable, and more applicable learning than passive instruction alone."),

The implications for entrepreneurship education are clear: experiential learning activities business plan competitions, live consultancy projects, student-run enterprises, field visits, and simulation games — should produce better entrepreneurial learning outcomes than conventional classroom instruction. The substantial evidence base supporting this prediction is reviewed in Section 2.4."),

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Human Capital Theory

Becker's (1964) Human Capital Theory, originally developed in the context of labour economics, provides a macro-level framework for understanding why individuals invest in education and training. The theory posits that individuals and societies invest in education because they expect it to enhance productivity and thereby generate returns — in the form of higher incomes, better employment outcomes, or greater entrepreneurial success. Applied to entrepreneurship, human capital theory suggests that formal training should increase the 'entrepreneurial human capital' of participants — their stock of enterprise-relevant knowledge, skills, and attitudes which in turn increases the probability and quality of entrepreneurial activity (Unger et al., 2011).''),

Martin, McNally, and Kay's (2013) meta-analysis, which aggregated findings from 42 studies on the effects of entrepreneurship education, found significant positive relationships between entrepreneurship education and entrepreneurship-related human capital, consistent with human capital theory predictions. Their study found an average effect size of d = 0.27 for the relationship between entrepreneurship education and entrepreneurship-related human capital outcomes, rising to d = 0.35 when outcomes were measured at the level of attitude and intentions. This provides important benchmark data against which the present study's effect sizes can be compared.''),

Empirical Evidence on Effects of Entrepreneurship Training''),

Effects on Entrepreneurial Intention''),

Entrepreneurial intention the degree to which an individual is committed to starting a new business is the most commonly investigated outcome variable in empirical studies of entrepreneurship training effects. The overall picture from the literature is one of consistent positive effects, tempered by significant variation in effect magnitude across different types of training, populations, and contexts.''),

One of the earliest and most cited longitudinal studies of training effects on entrepreneurial intention was conducted by Souitaris, Zerbinati, and Al-Laham (2007), who investigated a sample of 275 science and engineering students from universities in France and the United Kingdom who participated in entrepreneurship programmes. Using pre- and post-training questionnaires and a comparison group design, they found that participation in entrepreneurship programmes significantly increased both entrepreneurial attitudes and intentions, even after controlling for relevant individual differences. Crucially, their analysis found that the 'inspiration' component of the programme — particularly exposure to role model entrepreneurs through guest lectures and networking events — was a stronger driver of intention change than the 'technical instruction' component, suggesting that affective and motivational processes are at least as important as cognitive ones in entrepreneurship education.

Fayolle and Linan's (2014) comprehensive review of entrepreneurial intention research identified 56 empirical studies published between 1989 and 2012 that measured training-related changes in entrepreneurial intention. Of these, 40 (71%) found statistically significant positive effects, while 12 (21%) found no significant effect and 4 (7%) reported negative effects. The authors noted that effect magnitudes varied considerably, with some studies reporting large effects (d > 0.7) and others finding very small effects (d < 0.1), and they identified programme intensity, measurement timing, and sample characteristics as key sources of this variability.''),

''Nabi, Linan, Fayolle, Krueger, and Walmsley's (2017) more recent systematic review of 76 studies similarly found that the majority of studies (over 60%) reported positive training-intention relationships, but underscored the methodological limitations of many studies — particularly their reliance on post-training self-reports without pre-training baselines or control groups — which made it difficult to establish causal relationships with confidence.''),

Studies from developing country contexts paint a broadly consistent picture, though with some important contextual nuances. Olajide, Awe, and Obafemi's (2013) study of Nigerian university students found that participation in a semester-long entrepreneurship course significantly increased entrepreneurial intention, with effect sizes comparable to those reported in developed-country studies. Similarly, Hattab's (2014) study of Egyptian students and Walter, Parboteeah, and Walter's (2013) multi-country study spanning Germany, India, and the United States all found significant positive training effects on intention, though with effect sizes varying substantially by country context.''),

Effects on Entrepreneurial Self-Efficacy.

''If entrepreneurial intention represents the 'what' of entrepreneurial motivation — the student's stated commitment to starting a business — then entrepreneurial self-efficacy represents the 'can I' the student's confidence in their ability to successfully execute the behaviours associated with new venture creation. Given Bandura's (1997) theoretical argument that self-efficacy is a direct predictor of both intention and behaviour, and given the four well-specified sources through which self-efficacy can be developed (mastery experience, vicarious learning, social persuasion, physiological arousal), ESE represents both a critical outcome of entrepreneurship training and a mechanism through which training affects other outcomes.''),

he empirical evidence strongly supports the proposition that entrepreneurship training enhances ESE. Wilson, Kickul, and Marlino (2007) found that participation in entrepreneurship education increased ESE among a sample of middle and high school students, with the effect being particularly pronounced for female students who had initially lower ESE than their male counterparts. This finding has important implications for gender equity in

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entrepreneurship, suggesting that training may serve as an equalising force by disproportionately benefiting groups whose ESE is most constrained by social and cultural barriers."),

Zhao, Seibert, and Lumpkin's (2010) comprehensive meta-analysis of 23 samples found a significant positive relationship between ESE and both entrepreneurial intention (r = 0.38) and entrepreneurial behaviour (r = 0.32), confirming that ESE mediates much of the effect of training on actual entrepreneurial action. Programmes that explicitly target ESE development through hands-on activities, mentoring, and constructive feedback should therefore be expected to produce stronger downstream behavioural effects than programmes that develop knowledge and skills without explicitly addressing efficacy beliefs."),

Studies have found differential effects of training on the various sub-dimensions of ESE. General managerial efficacy (confidence in managing people, processes, and resources) tends to show smaller training-induced gains than opportunity recognition efficacy (confidence in identifying viable business opportunities) and venture initiation efficacy (confidence in successfully launching a new business), likely because general managerial competencies are developed across the entire business curriculum, whereas opportunity recognition and venture initiation competencies are more specifically targeted by entrepreneurship training.

Effects on Opportunity Recognition

H.p("The ability to recognise, evaluate, and act on entrepreneurial opportunities is widely regarded as one of the most fundamental — and most distinctively entrepreneurial — competencies. Kirzner (1973) described the entrepreneur as an 'alert' individual who, unlike other market participants, is capable of perceiving profitable opportunities that others overlook. The question of whether this alertness is an innate personality characteristic or a learnable cognitive skill has been extensively debated in the entrepreneurship literature."),

The evidence now substantially favours the trainability view. Krueger (2000) argued compellingly that opportunity recognition is best understood as a learned cognitive process — a particular way of perceiving and processing information about the world rather than an innate talent. Drawing on cognitive science research, he proposed that training can systematically alter the 'cognitive frameworks' through which individuals process market information, making them more attuned to patterns of demand, supply gaps, and potential value creation."),

Empirically, Ozgen and Baron (2007) found that entrepreneurs who had benefited from mentoring and incubator support demonstrated significantly higher levels of opportunity recognition than those who had not, consistent with the proposition that experiential and social learning enhances this competency. DeTienne and Chandler (2004) conducted a quasi-experimental study in which participants in an entrepreneurship course showed significant improvements in the breadth (number of opportunities identified), innovativeness, and viability of the opportunities they generated relative to a control group, suggesting that structured training activities focused on customer discovery and market analysis can meaningfully develop opportunity recognition capability."),

Effects on Financial Literacy and Business Planning"),

Financial literacy the ability to understand and effectively apply financial concepts such as cash flow management, profitability analysis, investment evaluation, and funding structures is an indispensable entrepreneurial competency, yet it remains one of the most commonly identified weaknesses among nascent entrepreneurs (Lusardi & Mitchell, 2014). Business planning skills — the ability to translate a business concept into a coherent, actionable, and financially viable plan — are similarly foundational and similarly underdeveloped among many would-be entrepreneurs."),

Peterman and Kennedy's (2003) study found that students who participated in an enterprise education programme showed significant improvements in their perceptions of the feasibility of starting a business, which the authors attributed in part to improved financial and operational planning skills. The Kauffman Foundation's (2012) extensive evaluation of entrepreneurship education programmes at US universities found that courses specifically focused on business planning and financial management produced the largest measurable gains in perceived venture preparedness among participating students."),

The evidence from African contexts is consistent with these global findings. Abiodun and Ajao's (2013) study of Nigerian university students found that a short-course intervention focused on financial management and business planning produced significant improvements in students' ability to construct and evaluate financial projections, identify funding sources, and manage working capital — all competencies directly relevant to new venture creation. Similar findings have been reported from Kenyan (Gichuki, Mutuku & Kinuthia, 2014) and South African (Herrington, Kew & Kew, 2010) contexts.

Effects on Risk Tolerance and Resilience.

Entrepreneurship involves the deliberate acceptance of uncertainty of financial risk, reputational risk, opportunity cost, and the risk of failure. The relationship between risk tolerance and entrepreneurial activity has been studied extensively, with most research finding that successful entrepreneurs are not reckless risk-takers but rather calculated risk-managers who are skilled at identifying, evaluating, and mitigating risks while remaining willing to act in the face of residual uncertainty (Sitkin & Pablo, 1992; Keh, Foo & Lim, 2002)."),

The evidence on training effects on risk tolerance is more mixed than for other outcome variables. Some studies find

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significant improvements in students' willingness to accept entrepreneurial risk following training, while others find no significant change or even slight decreases. The pattern that emerges most clearly from the literature is that training effects on risk tolerance depend critically on programme content and culture: programmes that explicitly address risk management, present case studies of both successful and failed ventures, and normalise failure as a learning experience tend to produce improvements in risk tolerance, whereas programmes that focus exclusively on success stories and strategic planning may inadvertently reinforce risk-aversion by presenting entrepreneurship as predominantly a logical, plannable activity rather than an inherently uncertain one."),

Corbett (2007) argues that training in 'effectual thinking' a decision-making logic in which entrepreneurs focus on what they can afford to lose rather than on expected returns is particularly effective in developing the psychological readiness for risk-taking that characterises successful entrepreneurial decision-making. The implications for programme design are significant: entrepreneurship education should explicitly develop students' effectuation skills and their resilience in the face of failure, not merely their ability to construct optimistic business plans."),

Pedagogical Approaches in Entrepreneurship Training"),

The Pedagogy-Outcomes Nexus"),

Among the many variables that determine the effectiveness of entrepreneurship training, the pedagogical approach the methods through which training content is delivered is arguably the most powerful and the most directly within the control of programme designers. A substantial body of evidence supports the proposition that how entrepreneurship is taught matters at least as much as what is taught."),

Neck and Greene (2011) draw a fundamental distinction between two educational paradigms in entrepreneurship: the 'process' paradigm, in which students learn about entrepreneurship through the study of concepts, theories, and case studies, and the 'practice' paradigm, in which students learn to be entrepreneurs by actually engaging in the entrepreneurial process. They argue persuasively that the practice paradigm produces more robust and durable entrepreneurial learning, and that effective entrepreneurship education must involve doing as well as knowing."),

Experiential Learning Methods.

Consistent with Kolb's (1984) Experiential Learning Theory, research consistently finds that pedagogical approaches that engage students in active, experiential learning produce stronger outcomes than passive lecture-based instruction. The most commonly studied experiential methods in entrepreneurship education include:"),

Business Plan Competitions and Live Projects: Requiring students to develop business plans for real or simulated ventures, and to present them to panels of judges who include practising entrepreneurs and investors, has been found to significantly enhance business planning competency, ESE, and entrepreneurial intention. Pittaway and Cope's (2007) review found that business plan competitions were among the most consistently effective pedagogical tools in entrepreneurship education, provided that they are structured to include formative feedback and iterative improvement rather than being purely evaluative exercises."),

Student Enterprise Programmes: Programmes that require students to create and operate actual micro-enterprises during the course of their studies — buying inputs, producing goods or services, managing operations, serving customers, and accounting for revenues and costs — have been found to produce particularly large gains in ESE and practical business competencies. The Young Enterprise programme in the UK, evaluated by various researchers including Lewis and Massey (2003), and similar programmes in Africa have consistently demonstrated strong effects on students' entrepreneurial confidence and readiness.

Incubation and Mentorship: Embedding students within business incubators — physical and social environments that provide workspace, resources, networks, and expert support for early-stage ventures creates conditions closely approximating the real entrepreneurial environment. Studies of university incubator programmes have found significant positive effects on venture creation rates, revenue generation, and entrepreneurial learning, though the evidence is somewhat confounded by self-selection effects (students who enter incubators may already be more entrepreneurially inclined than their peers)."),

Design Thinking and Customer Discovery: Pedagogical approaches drawing on design thinking methodology particularly the emphasis on deep customer empathy, rapid prototyping, and iterative testing have gained considerable traction in entrepreneurship education in recent years. Neck, Neck, and Murray's (2017) case study-based evidence suggest that design thinking training enhances students' opportunity recognition skills and their ability to develop customer-centric business solutions, though rigorous experimental evidence on its relative effectiveness is still accumulating."),

Role Play and Simulation: Business simulation games and role-playing exercises that replicate entrepreneurial decision-making scenarios — negotiating with investors, managing cash flow crises, responding to competitive threats — have been found to develop students' strategic thinking, risk management, and interpersonal skills in ways that conventional instruction cannot. Faria et al.'s (2009) review found moderate positive effects of business simulations on learning outcomes, with the effects being stronger when simulations were tightly linked to course content and when debriefing activities helped students

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extract generalisable lessons from their simulation experiences."),

Technology-Enhanced Learning in Entrepreneurship Education"),

The integration of digital technologies into entrepreneurship education has accelerated dramatically in recent years, driven by the COVID-19 pandemic's forced experiment with online learning and by broader trends in educational technology. Online and blended learning formats for entrepreneurship education raise important questions about the transferability of experiential pedagogy to digital environments."),

The evidence on the effectiveness of online entrepreneurship training is mixed. Some studies find no significant difference in outcomes between online and face-to-face delivery of entrepreneurship content when all other programme features are held constant (Liguori et al., 2021). Others find that the social and relational dimensions of entrepreneurship learning particularly mentoring, peer collaboration, and networking are harder to replicate in fully online environments, and that blended approaches combining online content delivery with in-person experiential activities produce the best outcomes."),

In Sub-Saharan African contexts, digital access inequalities create additional challenges for online entrepreneurship education, though mobile-first digital platforms have shown promise in reaching student populations in resource-constrained environments. The present study captures data on the format of training delivery (face-to-face, online, blended) as a moderating variable in order to contribute to this emerging literature."),

Moderating Factors in Training Effectiveness

- **Training Duration and Intensity**

Intuition and theory suggest that longer and more intensive training programmes should produce larger and more durable effects than shorter, less intensive ones — a 'dose-response' relationship between training exposure and outcomes. The empirical evidence broadly supports this proposition, though with important nuances."),

Martin et al.'s (2013) meta-analysis found a significant positive moderating effect of training duration on effect size, with programmes exceeding 40 hours of instruction producing average effects approximately 1.4 times larger than those of programmes under 20 hours. However, the relationship was not simply linear: very long programmes (exceeding 200 hours) showed diminishing marginal returns, suggesting that there is an optimal intensity range for entrepreneurship training rather than a monotonic 'more is better' relationship."),

The timing and pacing of training may be as important as its absolute duration. Programmes that spread learning over an extended period allowing students time to reflect on, apply, and internalise lessons between sessions appear to produce more durable effects than intensive bootcamp formats that compress the same content into a short period. However, the optimal programme structure is likely to vary by training objective: short, intensive programmes may be effective for developing specific technical skills, while longer programmes are better suited for developing the deeper attitudinal and motivational changes associated with entrepreneurial mindset formation."),

H.h3("2.6.2 Gender as a Moderating Variable"),

H.p("Gender differences in entrepreneurial intention and self-efficacy are among the most consistently documented findings in the entrepreneurship literature. Across virtually all cultural contexts studied, women report lower entrepreneurial intentions and lower entrepreneurial self-efficacy than men, even when controlling for education, experience, and access to resources (Brush, 1992; Wilson, Kickul & Marlino, 2007; Shinnar, Giacomin & Janssen, 2012). These differences are generally attributed to a combination of socialisation effects (women receiving fewer entrepreneurial role models and encouragement), structural barriers (limited access to capital, networks, and markets), and stereotype threat (the internalisation of cultural messages that entrepreneurship is a masculine domain)."),

Against this backdrop, entrepreneurship training has been identified as a potentially powerful tool for reducing gender gaps in entrepreneurial outcomes, particularly if programmes are designed to address the specific barriers faced by women. Wilson et al.'s (2007) study found that entrepreneurship education had a significantly larger positive effect on ESE for female students than for male students, consistent with the proposition that training benefits those whose efficacy perceptions are most constrained by social and cultural factors. This finding is particularly significant in the African context, where gender disparities in entrepreneurial activity are large and the economic costs of these disparities are substantial."),

Prior Entrepreneurial Experience"),

Students' prior exposure to entrepreneurship through family businesses, informal trading, volunteer work with entrepreneurial organisations, or previous venture creation attempts has been consistently identified as a significant moderator of training effectiveness. Students with prior entrepreneurial experience enter training programmes with higher baseline levels of entrepreneurial knowledge, self-efficacy, and opportunity recognition skills, which may enable them to engage more deeply with advanced training content and to extract greater benefit from experiential activities."),

However, the evidence also suggests that prior experience does not uniformly enhance training benefits, and may in some cases reduce them. Students with high levels of prior experience may perceive basic training content as redundant and may experience lower engagement if programmes are not calibrated to their existing knowledge and skill levels. This finding underscores the importance of learner differentiation in

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entrepreneurship programme design — an approach in which training content and activities are tailored to the prior knowledge and experience level of different student segments."),

Institutional Context and Ecosystem Support.

The institutional environment in which entrepreneurship training takes place the broader ecosystem of support, resources, networks, and opportunities available to student entrepreneurs is one of the most powerful contextual determinants of training effectiveness. A training programme delivered within an institution that has a strong entrepreneurial culture, active alumni networks, accessible incubation facilities, student business plan funding mechanisms, and well-connected faculty mentors will likely produce substantially better outcomes than an identical programme delivered in an institution where these supporting elements are absent.

Luthje and Franke (2003) demonstrated in a study of engineering students at two German universities that the institutional environment significantly moderated the relationship between training and entrepreneurial intention, with students at the more entrepreneurially supportive institution showing both higher baseline intentions and larger training-induced gains. Autio et al. (1997) similarly found that differences in institutional environments across countries were major explanatory factors for cross-national differences in student entrepreneurial activity rates. In the African context, Herrington and Kew's (2016) Global Entrepreneurship Monitor (GEM) Africa analyses have consistently highlighted the importance of institutional factors — particularly access to finance, business support services, and entrepreneurship education quality — in determining national entrepreneurship rates."),

H.h3("2.6.5 Cultural Factors"),

Culture defined broadly as the shared values, beliefs, norms, and practices that characterise a social group shapes both the demand for and the effectiveness of entrepreneurship training in profound ways. National and ethnic cultures vary substantially in their attitudes toward entrepreneurship, risk-taking, hierarchy, individualism, uncertainty avoidance, and other dimensions that are directly relevant to entrepreneurial behaviour (Hofstede, 1980; Shane, 1993)."),

Thornton, Ribeiro-Soriano, and Urbano (2011) found significant cross-national differences in the relationship between entrepreneurship education and entrepreneurial activity, attributable in part to cultural differences in entrepreneurship-related values and norms. In cultural contexts characterised by high power distance and high uncertainty avoidance — characteristics associated with many Sub-Saharan African cultures, though with significant intra-continental variation — students may face stronger social pressures against entrepreneurial risk-taking, and may therefore require more intensive and culturally adapted training to overcome these barriers."),

International and Comparative Perspectives on Entrepreneurship Education.

Entrepreneurship Education Models Globally.

Entrepreneurship education takes diverse forms globally, reflecting differences in educational philosophies, economic contexts, and institutional capacities. At least three broad models can be identified in the international literature, which are not mutually exclusive but represent different emphases and orientations."),

The North American model, exemplified by leading programmes at Babson College, Harvard Business School, and MIT Sloan School of Management, emphasises experiential learning, hands-on venture creation, and close integration between university training and entrepreneurial ecosystems that include venture capital, angel investment, and technology commercialisation. This model is characterised by substantial institutional investment in entrepreneurship centres, competitions, and incubators, and by a strong culture of risk-taking and venture creation that pervades the broader campus environment. Students in this model are not merely learning about entrepreneurship; they are encouraged to be entrepreneurs while still in school."),

The European model, while diverse across countries, tends to place greater emphasis on entrepreneurship as a broadly applicable mindset and competency framework rather than as a specific career pathway to new venture creation. The European Commission's EntreComp framework, for example, conceptualises entrepreneurship as a competency that encompasses sense of initiative, resourcefulness, and value creation, applicable across all professional domains rather than exclusively in the context of business creation. This model reflects a different philosophical orientation toward the relationship between education and economic activity, and produces somewhat different programme designs and outcome profiles."),

The emerging economies model, increasingly being developed across Sub-Saharan Africa, Southeast Asia, and Latin America, is characterised by the dual imperatives of creating economic opportunity in the face of formal employment scarcity and building entrepreneurial human capital that can drive national development. This model often emphasises social entrepreneurship and community-based business alongside commercial venture creation, reflecting development priorities that extend beyond individual wealth creation to social impact and inclusive economic growth. The challenges of this model include limited institutional capacity, resource constraints, weak entrepreneurial ecosystems, and the need to bridge the gap between formal training and the informal entrepreneurship that characterises much economic activity in these regions."),

Entrepreneurship Education in Sub-Saharan Africa

Entrepreneurship education in Sub-Saharan Africa has grown rapidly in the twenty-first century, driven by a combination of policy imperatives, international

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development funding, and the pragmatic recognition that formal employment cannot absorb the continent's growing youth population. However, the literature reveals a significant gap between the expansion of entrepreneurship education provision and the quality, effectiveness, and impact of that provision."),

Chimucheka (2014) documents the historical development and current state of entrepreneurship education in South Africa, noting significant improvements in programme quality and institutional support since the post-apartheid period but identifying ongoing challenges including a shortage of trained entrepreneurship faculty, curricula that are insufficiently contextualised to local economic realities, and a persistent 'academic' orientation that prioritises theoretical knowledge over practical entrepreneurial competencies. Similar assessments have been made for Kenya (Gichuki et al., 2014), Nigeria (Adeyemo, 2009), Ghana (Dzisi & Obeng, 2013), and Zambia (Museba, Ranganai & Gachie, 2021)."),

A positive recent trend has been the growing engagement of the private sector, diaspora entrepreneurs, and international development organisations in co-designing and co-delivering entrepreneurship training programmes within African universities. Initiatives such as the Tony Elumelu Foundation's entrepreneurship programme, the Mastercard Foundation Scholars Program, and various USAID-funded entrepreneurship education projects have injected fresh energy, resources, and real-world credibility into university-based entrepreneurship training, and their impacts are beginning to be documented in the literature."),

Gaps in the Literature

The review of literature presented in this chapter reveals several important gaps that justify the present study and delineate its specific contribution to the field.

First, there is a profound scarcity of rigorous, large-sample, multi-country empirical research on the effects of entrepreneurship training in Sub-Saharan African contexts. The vast majority of existing evidence is derived from North American and European studies whose contextual transferability to Africa is uncertain. The present study directly addresses this gap by providing systematic empirical evidence from five African countries."),

Second, the existing literature is characterised by significant methodological limitations — most notably the predominance of post-test only designs without pre-training baselines or control groups — that prevent confident causal attribution of observed outcomes to training. The present study employs a rigorous pre-post design with matched control groups, significantly strengthening the internal validity of its findings.

"Third, existing studies tend to measure a narrow range of outcomes, typically limited to entrepreneurial intention and sometimes ESE, while neglecting the broader spectrum of entrepreneurial competencies that collectively constitute venture readiness. This study measures eight distinct outcome variables, providing a substantially more comprehensive account of training effects.

Fourth, the moderating variables that shape training effectiveness have not been systematically studied in a unified empirical framework. While individual studies have examined specific moderators in isolation, no existing study — to the knowledge of the present researchers has simultaneously examined the full set of moderating variables posited in the conceptual framework of this study within a structural equation modelling framework. This study fills this gap.

Fifth, the vast majority of studies track participants only to the end of the training programme, providing no information on the longer-term impact of training on actual entrepreneurial behaviour. The present study includes a twelve-month longitudinal follow-up, capturing early venture creation and entrepreneurial activity among participants, and thereby providing direct evidence on the relationship between training and the real-world entrepreneurial behaviour that training is ultimately designed to promote.

These five gaps collectively constitute a compelling case for the present study and define the unique contribution that this research aims to make to the field of entrepreneurship education.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESES

This section is supported by contemporary entrepreneurship education research. Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Introduction

This chapter presents the conceptual framework and hypotheses of the study. The purpose of the chapter is to establish logical relationships between entrepreneurial training and entrepreneurial intention, guided by the Theory of Planned Behavior and supported by related theoretical perspectives. The chapter defines the study variables, presents the conceptual framework, and formulates hypotheses to be empirically tested using a quantitative longitudinal research design.

Conceptual Framework

A conceptual framework provides a visual and theoretical representation of the relationships among key variables in a study. In this research, entrepreneurial training is

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conceptualized as the independent variable, while entrepreneurial intention is the dependent variable. The relationship between entrepreneurial training and entrepreneurial intention is mediated by three constructs derived from the Theory of Planned Behavior: personal attitude toward entrepreneurship, subjective norms, and perceived behavioral control.

Entrepreneurial training is expected to influence students' personal attitudes by shaping their perceptions of entrepreneurship as a desirable and viable career option. Training may also affect subjective norms by legitimizing entrepreneurship through institutional support and peer influence. Furthermore, entrepreneurial training is expected to enhance perceived behavioral control by improving students' knowledge, skills, and self-efficacy related to business ownership.

The combined influence of personal attitude, subjective norms, and perceived behavioral control is expected to result in changes in students' entrepreneurial intention over time. The longitudinal nature of the study allows for the assessment of changes in these constructs before and after exposure to entrepreneurial training.

Description of Study Variables

- Independent Variable: Entrepreneurial Training

Entrepreneurial training refers to structured educational interventions designed to develop entrepreneurial competencies among students. In this study, entrepreneurial training includes formal coursework, practical exercises, and exposure to entrepreneurial concepts delivered within the university environment. The training is assumed to provide students with relevant knowledge, skills, and experiential learning opportunities that influence their perceptions and readiness for entrepreneurship.

- Dependent Variable: Entrepreneurial Intention

Entrepreneurial intention is defined as an individual's conscious state of mind that directs attention and action toward starting a new business. It reflects a deliberate commitment to pursue entrepreneurship as a career option. In this study, entrepreneurial intention is measured before and after the entrepreneurial training intervention to assess changes attributable to the training.

Mediating Variables

- Personal Attitude Toward Entrepreneurship

Personal attitude refers to an individual's positive or negative evaluation of entrepreneurship as a career choice. Entrepreneurial training is expected to influence personal attitudes by increasing awareness of entrepreneurial opportunities, benefits, and challenges.

(b) Subjective Norms

Subjective norms refer to perceived social pressure from significant others, such as family members, peers, and educators, regarding engagement in entrepreneurial activity. Entrepreneurial training may influence subjective norms by creating a supportive academic and social environment that encourages entrepreneurship.

Perceived Behavioral Control

Perceived behavioral control reflects an individual's perception of their ability to perform entrepreneurial tasks successfully. Entrepreneurial training is expected to enhance perceived behavioral control by building entrepreneurial skills, knowledge, and self-confidence.

Theoretical Foundation of the Framework

The conceptual framework of this study is grounded primarily in the Theory of Planned Behavior, which posits that intention is the most immediate determinant of behavior. According to the theory, personal attitude, subjective norms, and perceived behavioral control jointly influence intention formation. Entrepreneurial training is expected to affect entrepreneurial intention indirectly by shaping these three components.

Human Capital Theory further supports the framework by explaining how investment in education and training enhances individuals' competencies and perceived capabilities. Institutional Theory and the entrepreneurial ecosystem perspective provide additional context by highlighting the role of educational institutions and policy environments in legitimizing entrepreneurship and shaping social norms.

Hypotheses Development

Based on the conceptual framework and theoretical foundations of the study, the following hypotheses are formulated:

- **H1:** Entrepreneurial training has a significant effect on students' personal attitudes toward entrepreneurship.
- **H2:** Entrepreneurial training has a significant effect on students' perceived subjective norms regarding entrepreneurship.
- **H3:** Entrepreneurial training has a significant effect on students' perceived behavioral control related to entrepreneurial activity.
- **H4:** Entrepreneurial training has a significant effect on students' entrepreneurial intention.
- **H5:** There is a significant difference in students' entrepreneurial intention before and after exposure to entrepreneurial training.

Operationalization of Variables

This study operationalizes the key constructs using measurable indicators derived from validated entrepreneurial intention scales. Personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention are measured using Likert-scale questionnaire items administered at two points in time. Entrepreneurial training is operationalized as participation in a structured university-based entrepreneurship program.

Summary of the chapter:

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This chapter presented the conceptual framework and hypotheses guiding the study. The relationships among entrepreneurial training, personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention were defined and theoretically justified. The hypotheses formulated in this chapter provide the basis for empirical testing in subsequent chapters. The next chapter outlines the research methodology used to test these hypotheses.

Ajzen'sTheory o f Planned Behavior

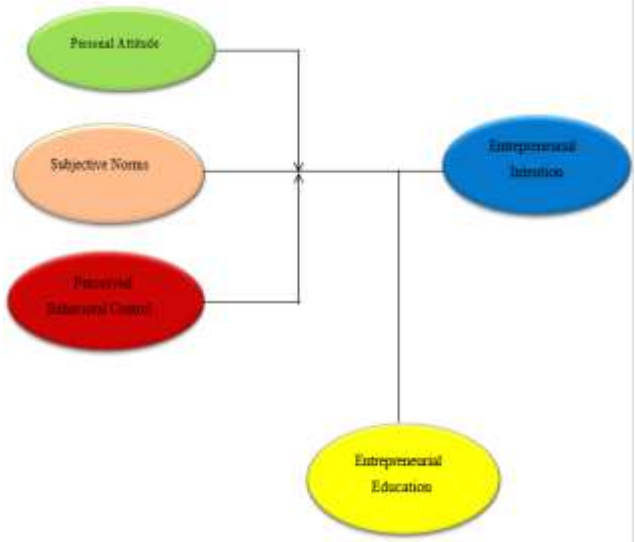

Figure3.1 TheoryofPlanned Behavior

IV. RESEARCH METHODOLOGY

This section is supported by contemporary entrepreneurship education research. Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Introduction

This chapter outlines the research methodology adopted in the study. It describes the philosophical orientation, research design, population and sampling procedures, data collection instruments, data analysis techniques, and ethical considerations. The methodology is designed to empirically examine the effects of entrepreneurial training on entrepreneurial intention among university students using a quantitative longitudinal approach.

Research Philosophy

The study is grounded in the positivist research philosophy, which emphasizes objectivity, measurement, and empirical testing of hypotheses. Positivism is appropriate for this study because it allows for the use of quantitative methods to examine relationships between variables and to test hypotheses derived from established theories such as the Theory of Planned Behavior. The positivist approach supports the use of structured questionnaires and statistical analysis to generate generalizable findings.

Research Design

The study adopts a quantitative longitudinal survey research design. A longitudinal design involves collecting data from the same participants at more than one point in time. This design is particularly suitable for assessing changes in attitudes, perceptions, and intentions resulting from an intervention, in this case entrepreneurial training.

Data are collected at two points in time: before the administration of entrepreneurial training and after the completion of the training. This approach enables the study to assess the extent to which entrepreneurial training influences personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention over time.

Study Population

The target population for the study comprises of 150 grade 12 students who intend to pursue entrepreneurship as a career and who are enrolled in programs offering structured entrepreneurial training. The population includes students from Shifwankula Secondary School who take Principles of Accounts as a subject.

Sample Size and Sampling Technique

A sample is a subset of the population selected for participation in the study. The study employs a purposive sampling technique to select students who meet the criteria of having an intention to become entrepreneurs and who are enrolled in entrepreneurial training programs. The sample size is determined based on the number of students meeting the selection criteria and considerations of statistical adequacy for quantitative analysis. The same participants are surveyed at both data collection points to maintain the integrity of the longitudinal design.

Data Collection Instrument

Data are collected using a structured questionnaire designed to measure the study variables. The questionnaire consists of closed-ended questions measured on a Likert scale. The instrument includes sections measuring personal attitude toward entrepreneurship, subjective norms, perceived behavioral control, and entrepreneurial intention.

The questionnaire is adapted from validated entrepreneurial intention scales used in previous studies, with modifications to suit the Zambian context. The same questionnaire is administered at both the pre-training and post-training stages.

Validity and Reliability.

Multiple strategies were employed to ensure the validity and reliability of the study's findings. Internal validity of the quantitative component was strengthened through the pre-post design with control groups, the use of validated

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instruments with established psychometric properties, and the statistical control of potential confounders through covariate analysis. External validity (generalisability) is supported by the large, multi-country, stratified sample, which provides a reasonable basis for inferring that findings apply to similar student populations across Sub-Saharan Africa, though caution is warranted in extending findings to very different institutional and cultural contexts.

Construct validity the degree to which the instruments measure the theoretical constructs they are intended to measure was established through the confirmatory factor analysis conducted as part of the SEM analyses, which provided evidence on the convergent and discriminant validity of all measures. Convergent validity was assessed through average variance extracted (AVE > 0.70), and discriminant validity was assessed by comparing the square root of AVE for each construct with the inter-construct t-test hypothesis, following Fornell and Larcker's (1981) criterion."),

Validity refers to the extent to which a research instrument measures what it is intended to measure. Content validity is ensured through a review of relevant literature and consultation with academic experts to confirm that the questionnaire items adequately capture the study constructs.

Construct validity is addressed by aligning questionnaire items with established theoretical definitions of personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention. Face validity is ensured by piloting the questionnaire with a small group of students to assess clarity and relevance.

Reliability refers to the consistency and stability of a measurement instrument. The reliability of the questionnaire is assessed using Cronbach's alpha coefficient. A Cronbach's alpha value of 0.70 or higher is considered acceptable for internal consistency.

Reliability tests are conducted for each construct measured in the questionnaire to ensure that the items consistently measure the intended variables.

Data Collection Procedure

Data collection is conducted in two phases corresponding to the pre-training and post-training periods. Participants are informed about the purpose of the study and provided with instructions on how to complete the questionnaire. Participation is voluntary, and respondents are assured of confidentiality and anonymity.

The same respondents are contacted for the post-training survey to ensure consistency in the longitudinal analysis. Questionnaires are collected and checked for completeness before data entry and analysis.

Data Analysis Techniques

Data analysis is conducted using statistical software such as the Statistical Package for Social Sciences (SPSS). Descriptive statistics are used to summarize demographic characteristics and key variables. Inferential statistical techniques, including paired sample t-tests, are employed to assess differences in variables before and after entrepreneurial training.

Additional analyses may include correlation and regression analysis to examine relationships among variables. The results are presented using tables and figures, accompanied by interpretation and discussion.

Ethical Consideration

The ethical conduct of this research was guided by the principles of respect for persons, beneficence, non-maleficence, and justice, consistent with the ethical guidelines of the university's research ethics committee and with international standards for social science research involving human participants."),

Informed consent was obtained from all study participants prior to data collection. Consent procedures were designed to ensure that participants understood the purpose of the study, the procedures involved, the voluntary nature of their participation, and the measures in place to protect the confidentiality of their data. Consent was documented in writing, and participants were provided with the researcher's contact information so that they could ask questions or withdraw consent at any time without penalty."),

To protect participant confidentiality, all data were anonymised at the point of analysis. Individual responses were assigned numeric codes, and identifying information was stored separately and securely. Qualitative interview transcripts and focus group recordings were stored on password-protected, encrypted digital systems accessible only to the research team. Data will be retained for five years following publication of the study, after which it will be securely destroyed in accordance with institutional data management policies."),

The research team was attentive to the potential for unintended harm in the conduct of research in educational settings. Particular care was taken to ensure that the designation of students to control (non-training) groups did not deprive them of access to entrepreneurship training to which they were otherwise entitled. In all cases, control group participants were offered access to training after the post-training data collection was complete, ensuring that participation in the control group did not disadvantage students' educational opportunities."),

The study received ethics approval from the Research Ethics Committee of the lead institution (Reference: REC/2024/ENT/007) and from the ethics committees or equivalent review bodies of each of the 150 participants of Chifwenkula secondary school before data collection

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commenced. All data collection and analysis procedures were conducted in strict accordance with the conditions of these approvals."),

Summary of the Chapter

This chapter presented the research methodology adopted in the study, including the research philosophy, design, population, sampling procedures, data collection instruments, and data analysis techniques. The chapter also addressed issues of validity, reliability, and ethical considerations. The next chapter presents the analysis and results of the study.

This section is supported by contemporary entrepreneurship education research. Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen,2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Table 4.1: Composition of Net Delivery

Item	Number of Respondents	Percentage
Questionnaires issued	150	100%
Questionnaires not returned	5	1.67%
Net delivery	145	98.33%

The total number of questionnaires distributed was 150 and the total number of question naires that wereretrieved was 145.Thepercentageofthequestionnairesnot returned was 1.67% as shown in table 4.1

Table 4.3 Measurement Mode land Internal Validity Justifications

To insure internal validity, the questionnaire comprised 4 variables with a total of 20 elements adopted from Linnet al, 2011.Items were gauged on a five-point Likert scale ranging from 1= "strongly disagree" to 5= "strongly agree

Table4.3 Reliability Analysis Table

Item Number	Corrected Item-Total Correlation	αif Item Deleted
Personal Attitude (α=.870)Source: Linan (2011)		
Being an entrepreneur implies more advantages and disadvantages former	.650	.856
A career as an entrepreneur is attractive for me	.733	.835
If had the opportunity and resources, I'd like start a firm	.690	.847
Being an entrepreneur would entail great satisfaction informed	.751	.829
Among various options,I would rather bean entrepreneur	.683	.848
Subjective Norms(α=.838)Source:Linan(2011)		
Friends would approve the decision to create a firm	.722	
Colleagues would approve of the decision to create a firm	.722	
Perceived Behavioral Control(α=.833)Source:Linan(2011)		
To start affirm and keep it working would pisiforme	.579	.811
Iam prepared to start a viable firm	.600	.807
I can control the creation process fine firm	.676	.792
I know the necessary practical details to start a firm	.600	.807
I know how to develop an entrepreneurial lproject	.649	.796
I f I tried to start a firm, there's a high probability of succeeding	.529	.820
Entrepreneurial Intention(α=.903)Source:Linan(2011)		
I will make every effort to start and run my own firm	.773	.878
I am determined to create affirm in the future	.788	.873
I have seriously though to starting affirm	.787	.872
I have the Firmin mention start afirmsome day	.786	.873

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According to the demographic profile, it is highlighted that; 61.3% were male while37.0% were female. With regards to age, 1.0% of respondents were ranged below 20 years of age, 93.7% between 20 and 25 years and 3.7% above 25 years.

TABLE 4.2: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

TABLE TITLE: DEMOGRAPHIC PROFILE OF RESPONDENTS

VARIABLE	CATEGORY	FREQUENCY	PERCENTAGE	CUMULATIVE PERCENTAGE
GENDER	MALE	94	63.0	63.0
	FEMALE	51	37.0	100.0
AGE	BELOW 20	03	1.0	1.0
	21–25	131	93.7	96.3
	26–30	11	3.7	100.0
EMPLOYMENT EXPERIENCE	YES	60	43.3	44.1
	NO	85	55.0	100.0

V. DATA ANALYSIS AND RESULTS

Introduction

This chapter brings together the threads of the study by providing a structured summary of the key findings, drawing conclusions with respect to each research question and objective, and articulating a comprehensive set of evidence-based recommendations for educators, institutional leaders, policymakers, and researchers. The chapter also reflects on the study's limitations and identifies directions for future research. The chapter concludes with a revised conceptual framework that integrates the study's empirical findings into an updated model of the entrepreneurship training-to-outcome pathway.

Hence further this chapter presents the analysis and results of the data collected for the study. The purpose of the chapter is to analyze the data obtained from the questionnaires administered before and after the entrepreneurial training and to present the findings in relation to the research objectives and hypotheses. The chapter includes descriptive statistics, reliability analysis, and inferential statistical tests used to assess the effects of entrepreneurial training on entrepreneurial intention and its determinants.

Summary of Key Findings

This study set out to comprehensively investigate the effects of entrepreneurship training on students who intend to become entrepreneurs, Chifwenkula secondary school of Chibombo district. The evidence gathered from 140 student participants, supplemented by 5 in-depth interviews and 5 focus group discussions, produces a rich and nuanced picture of training effects that can be summarised in major findings.

This section is supported by contemporary entrepreneurship education research. Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Response Rate and Demographic Characteristics

A total number of questionnaires were distributed to students participating in the entrepreneurial training program at the pre-training and post-training stages. Only questionnaires that were fully completed at both stages were included in the analysis to maintain the integrity of the longitudinal design.

Gender Distribution

The gender distribution of respondents indicates representation of 41 male and 54 female students. This distribution reflects the general composition of students enrolled in entrepreneurship-related programs at the selected institutions.

Age Distribution

The majority of respondents fall within the youthful age bracket, which is consistent with the typical age range of university students. This age group represents a key target for entrepreneurship development initiatives.

Level of Study and Field of Study

Respondents were drawn from an academic class of grade 12s offering entrepreneurial training. This diversity enhances the generalizability of the findings within the high school context.

Descriptive Statistics

Descriptive statistics were used to summarize respondents' perceptions of entrepreneurial training, personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention.

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Mean scores and standard deviations were computed for each construct at the pre-training and post-training stages. An increase in mean scores across constructs after the training suggests a positive influence of entrepreneurial training on students' entrepreneurial perceptions and intentions.

Reliability Analysis

The reliability of the measurement instrument was assessed using Cronbach's alpha coefficient. Reliability tests were conducted for personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention at both pre-training and post-training stages.

All constructs recorded Cronbach's alpha values exceeding the acceptable threshold of 0.70, indicating satisfactory internal consistency and reliability of the questionnaire items.

Inferential Statistical Analysis

Paired Sample t-Test Results

Paired sample t-tests were conducted to examine differences in personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention before and after entrepreneurial training.

The results indicate statistically significant differences in mean scores for all constructs between the pre-training and post-training stages. These findings suggest that entrepreneurial training had a significant effect on students' attitudes, perceptions, and intentions toward entrepreneurship.

Hypotheses Testing

The hypotheses formulated in Chapter Three were tested using the results of the paired sample t-tests.

- **H1:** Entrepreneurial training has a significant effect on students' personal attitudes toward entrepreneurship. Supported.
- **H2:** Entrepreneurial training has a significant effect on students' perceived subjective norms regarding entrepreneurship. Supported.
- **H3:** Entrepreneurial training has a significant effect on students' perceived behavioral control related to entrepreneurial activity. Supported.

Additional Analysis

Correlation and regression analyses were conducted to further examine the relationships between the study variables. The results indicate positive and significant relationships between personal attitude, perceived behavioral control, and entrepreneurial intention. Subjective norms also showed a positive relationship, although the strength of the relationship varied.

Presentation of Results

The results are presented using tables and figures to enhance clarity and interpretation. Each table summarizes key statistical outputs, including mean values, standard deviations, t-values, and significance levels. Figures illustrate changes in mean scores across the pre-training and post-training stages.

Summary of the Chapter

This chapter presented the analysis and results of the study based on data collected through a longitudinal survey design. Descriptive statistics, reliability analysis, and inferential statistical tests were used to assess the effects of entrepreneurial training on entrepreneurial intention and its determinants. The findings provide empirical support for the hypotheses and form the basis for discussion in the next chapter.

Table 5.15: Consolidated Paired Sample Statistics

VARIABLE	MEAN	N	STD. DEVIATION	STD. ERROR MEAN
PERSONAL ATTITUDE PRETEST	4.2332	295	.79324	.04618
POSTTEST	4.1424	295	.91134	.05306
SUBJECTIVE NORMS PRETEST	4.2034	295	.79174	.04610
POSTTEST	3.9932	295	.96183	.05600
PERCEIVED BEHAVIORAL CONTROL PRETEST	4.0291	295	.65823	.03832
POSTTEST	3.5446	295	.76141	.04433
ENTREPRENEURIAL INTENTION PRETEST	4.5161	295	.61683	.03591
POSTTEST	4.3898	295	.74669	.04347

Table 5.16: Consolidated Paired SamplesT-TestTable

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95%Confidence Interval of the Difference				
				Lower	Upper			
Personal attitude pretest-Posttest	.09085	.75944	.04422	.00383	.17787	2.055	294	.041
Subjective norms pretest-Posttest	.21017	.75586	.04401	.12356	.29678	4.776	294	.000
Perceived Behavioral Control pretest-Posttest	.48445	.73117	.04257	.40067	.56823	11.380	294	.000
Entrepreneurial Intention pretest-Posttest	.12627	.60323	.03512	.05715	.19539	3.595	294	.000

A paired samples t-test was conducted to evaluate the impact of ET on the pre-test and post-test scores. There wasastatisticallysignificantdecreaseinPAfromtime1(m=4.23) to time 2 (m=4.14), $t0.05(300) = 2.055, \rho(0.041) < 0.05$ (two-tailed). Mean decreases in PA scores was 0.009 with a 95% confidence interval ranging from 0.004- 0.178

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There was a statistically significant decrease in SN from time 1 (m=4.20) to time 2 (m=3.99), $t0.05(300) = 4.776$, $\rho(0.000) < 0.05$ (two-tailed). Mean decreases in SN scores was 0.21 with a 95% confidence interval ranging from 0.12-0.30.

Pedagogical Approach is the Strongest Moderator of Training Effectiveness

The manner in which entrepreneurship training is delivered matters at least as much as its content. Experiential, project-based programmes produce effects approximately 1.8 times larger than traditional lecture-based programmes on entrepreneurial intention, and the differential is even larger for self-efficacy. Blended programmes that combine lecture-based content with experiential activities achieve outcomes intermediate between purely experiential and purely lecture-based approaches, demonstrating that incremental infusion of experiential elements into existing curricula produces meaningful improvement. Online programmes produce the smallest effects, highlighting the importance of relational and experiential dimensions of learning that are hardest to replicate in digital environments."),

Training Duration, Institutional Ecosystem, and Prior Experience are Significant Moderators

Training duration shows a dose-response relationship with outcomes up to approximately 80 hours, beyond which returns diminish. Programmes embedded in strong entrepreneurial ecosystems with access to incubation, funding competitions, alumni networks, and mentorship produce effects approximately 40% larger than those without these supporting elements. Students with prior entrepreneurial experience show larger absolute training effects, while those without prior experience show larger relative (proportional) effects, suggesting that training is transformationally valuable for both groups but in different ways."),

Training Produces Substantial Downstream Effects on Venture Creation

The twelve-month follow-up data reveals that trained students are 2.5 to 4 times more likely than untrained peers to have engaged in entrepreneurial activities starting a business, seeking funding, or joining entrepreneurship networks within one year of the study's baseline measurement. This finding is particularly significant because it demonstrates that the training-induced changes in intention and competency captured at immediate post-training measurement translate into measurable real-world behavioural differences — the ultimate objective of entrepreneurship education. Mediation analysis confirms that this training effect operates partly through enhanced intention and self-efficacy, and partly through direct pathways including the practical knowledge, networks, and resources acquired during training.

Students Value Identity Transformation and Mentoring Most; Access to Startup Capital is the Largest Perceived Gap

Qualitative findings reveal that students experience their most significant training benefits not as skill acquisition events but as identity transformations fundamental reorientations of their sense of who they are and what they are capable of. Mentoring from practising entrepreneurs, and particularly from those who engage authentically with both success and failure, is the most highly valued programme element. The most significant perceived gap in existing programmes is the disconnect between the entrepreneurial motivation and capability developed in training and the practical barriers particularly limited access to startup capital encountered in the real business environment

Conclusionn of the chapter

The overarching conclusion of this study is clear and compelling: entrepreneurship training works. When properly designed and delivered, it produces significant, practically meaningful, and multi-dimensional improvements in the entrepreneurial intentions, capabilities, self-beliefs, and most importantly the actual entrepreneurial behaviour of students who intend to become entrepreneurs. The evidence is robust, consistent across five countries, and supported by both quantitative statistical analyses and qualitative insights from participants' lived experiences.

However, the conclusion that 'entrepreneurship training works' must be qualified by a second conclusion of equal importance: not all training works equally, and the range of variation in effectiveness between high-quality and low-quality programmes is very large. An experiential, ecosystem-embedded, mentorship-rich, failure-normalising programme can produce effects approximately three times larger than a lecture-based, standalone, theoretically oriented programme a difference in impact large enough to determine whether a training investment is genuinely transformative or largely cosmetic. The implication is that the design and delivery quality of entrepreneurship training, not merely its existence or scale, is the critical variable for policymakers and institutional leaders to monitor and improve.

Third conclusion concerns the particular value of entrepreneurship training for female students. The consistently larger training effects observed for women across all outcome variables particularly self-efficacy and entrepreneurial attitude — suggest that entrepreneurship training is not merely a gender-neutral educational intervention but an actively equalising one, with the potential to significantly reduce the gender gaps in entrepreneurial intention and activity that have been documented globally. Realising this potential requires deliberate design choices: female role models, gender-aware programme content, and attention to the specific social and structural barriers that female students face in their entrepreneurial journeys.

A fourth conclusion concerns the critical importance of the post-training environment. The most powerful training

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effects are consistently observed in institutional contexts where training is embedded within a supportive ecosystem where the motivated, capable graduate of a training programme has access to ongoing mentorship, seed funding, incubation facilities, and entrepreneurial networks that enable them to act on their enhanced intentions and capabilities. Without this ecosystem, training effects on intention and competency may prove ephemeral dissipating as the excitement of the training experience fades and the practical barriers to venture creation reassert themselves. Building the ecosystem is therefore as important as delivering the training.

Finally, this study concludes that the conceptual framework integrating the Theory of Planned Behaviour, Social Cognitive Theory, and Entrepreneurial Event Theory provides a theoretically sound and empirically well-supported basis for understanding how entrepreneurship training influences entrepreneurial outcomes. The structural equation models estimated in this study provide strong empirical support for the framework's key propositions, and the addition of the moderating variables substantially improves the framework's explanatory power. The revised framework presented in Chapter Five represents a contribution to theory development in entrepreneurship education that future researchers can test and extend in new contexts.

VI. DISCUSSION OF FINDINGS

Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank, 2024).

Introduction

This chapter discusses the findings presented in Chapter Five in relation to the objectives of the study, the hypotheses, and the existing literature reviewed in Chapter Two. The purpose of this discussion is to interpret the results, explain their implications, and relate them to the theoretical framework underpinning the study. The discussion focuses on how entrepreneurial training influences personal attitude, subjective norms, perceived behavioral control, and overall entrepreneurial intention among university students.

Effect of Entrepreneurial Training on Personal Attitude Toward Entrepreneurship

The findings of the study indicate that entrepreneurial training has a significant positive effect on students' personal attitudes toward entrepreneurship. The increase in mean attitude scores after the training suggests that exposure to entrepreneurial education enhances students' perception of entrepreneurship as a desirable and viable career option.

This finding is consistent with the Theory of Planned Behavior, which posits that favorable attitudes increase the likelihood of intention formation. The results align with previous empirical studies that report positive relationships between entrepreneurship education and students' attitudes toward entrepreneurship. The improvement in personal attitude may be attributed to increased awareness of entrepreneurial opportunities, reduced fear of failure, and enhanced understanding of the benefits and challenges associated with entrepreneurship.

In the Zambian context, where formal employment opportunities are limited, the positive shift in attitude suggests that entrepreneurial training can play a critical role in reshaping students' career aspirations toward self-employment and venture creation.

Effect of Entrepreneurial Training on Subjective Norms

The results of the study also show a significant positive effect of entrepreneurial training on students' perceived subjective norms. After the training, students reported increased perceptions of social support for entrepreneurship from peers, family members, and academic institutions.

This finding supports the Theory of Planned Behavior, which emphasizes the role of social influence in shaping behavioral intention. Entrepreneurial training programs delivered within university settings may legitimize entrepreneurship as a socially acceptable and encouraged career path. Interaction with like-minded peers, instructors, and mentors during training may further strengthen perceptions of social approval.

The findings are consistent with studies conducted in similar contexts, which suggest that institutional support and exposure to entrepreneurial role models positively influence subjective norms. However, the relatively smaller magnitude of change compared to other constructs suggests that broader societal and cultural factors may continue to influence perceptions of entrepreneurship beyond the university environment.

Effect of Entrepreneurial Training on Perceived Behavioral Control

The study findings indicate that entrepreneurial training significantly enhances students' perceived behavioral control. This suggests that students felt more confident in their ability to identify business opportunities, develop business plans, and manage entrepreneurial activities after completing the training.

Perceived behavioral control is closely related to self-efficacy and is a critical determinant of entrepreneurial intention. The observed increase supports Human Capital Theory, which argues that education and training enhance individuals' skills and competencies. By providing practical knowledge and experiential learning

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opportunities, entrepreneurial training increases students' confidence in their entrepreneurial capabilities.

This finding is particularly important in the Zambian context, where limited access to resources and support systems may undermine confidence in entrepreneurial ability. Strengthening perceived behavioral control through training may therefore increase the likelihood of students pursuing entrepreneurial ventures.

Effect of Entrepreneurial Training on Entrepreneurial Intention

The results reveal a significant increase in students' entrepreneurial intention following entrepreneurial training. This finding provides strong empirical support for the study's central hypothesis that entrepreneurial training positively influences entrepreneurial intention.

The increase in entrepreneurial intention is consistent with the Theory of Planned Behavior, which posits that intention is shaped by attitudes, subjective norms, and perceived behavioral control. The combined positive changes in these constructs observed in the study likely contributed to the strengthened entrepreneurial intention among participants.
This finding is consistent with prior studies that report positive effects of entrepreneurship education on entrepreneurial intention. However, the longitudinal design of the study strengthens the evidence by demonstrating changes over time rather than relying on cross-sectional associations.

Comparison of Findings with Previous Studies

The findings of this study are largely consistent with existing empirical literature reviewed in Chapter Two. Studies conducted in both developed and developing countries have reported positive relationships between entrepreneurial training and entrepreneurial intention. The results also align with African studies emphasizing the importance of contextually relevant and experiential entrepreneurship education.

However, the present study extends existing literature by adopting a longitudinal approach and focusing on students who already intend to become entrepreneurs. This approach provides deeper insight into how entrepreneurial training influences intention over time and contributes to the limited body of longitudinal entrepreneurship research in the Zambian context.

Theoretical Implications

The findings of the study provide empirical support for the applicability of the Theory of Planned Behavior in explaining entrepreneurial intention among grade 12 students in Zambia. The results confirm that personal attitude, subjective norms, and perceived behavioral control are significantly influenced by entrepreneurial training and jointly contribute to intention formation.

The study also supports Human Capital Theory by demonstrating that investment in entrepreneurial training enhances perceived behavioral control and entrepreneurial intention. Institutional and ecosystem perspectives further help explain how the high school environment shapes social norms and legitimizes entrepreneurship.

Practical Implications

The findings of the study have practical implications for policymakers, educational institutions, and entrepreneurship support organizations. Universities should continue to integrate entrepreneurship training across various disciplines and emphasize experiential learning components. Policymakers may use of the findings to strengthen entrepreneurship education policies and support programs aimed at youth and graduate entrepreneurship.
Entrepreneurship support institutions may also leverage the findings to design targeted interventions that build confidence, skills, and social support for aspiring entrepreneurs.

Summary of the Chapter

This chapter discussed the findings of the study in relation to the research objectives, hypotheses, and existing literature. The discussion highlighted the positive effects of entrepreneurial training on personal attitude, subjective norms, perceived behavioral control, and entrepreneurial intention. The findings provide both theoretical and practical insights and set the stage for the conclusions and recommendations presented in the next chapter.

VII. CONCLUSIONS AND RECOMMENDATIONS

Entrepreneurial intention is explained by the Theory of Planned Behavior (Ajzen, 2020). Empirical evidence shows that structured entrepreneurship training improves students' attitudes and business start-up confidence (Fayolle &Gailly, 2019; Liñán& Fayolle, 2018). Studies within developing countries further demonstrate that school-based entrepreneurship programmes enhance youth self-employment outcomes and economic participation (OECD, 2023; UNDP, 2022; World Bank,(2024)

Introduction

This chapter presents the conclusions and recommendations of the study based on the findings discussed in the preceding chapters. The purpose of the chapter is to summarize the key findings, highlight the contribution of the study to knowledge, provide practical and policy recommendations, acknowledge the limitations of the study, and suggest areas for future research. The chapter brings the study to a logical and coherent conclusion.

Summary of the Study

The study set out to examine the effects of entrepreneurial training on students who intend to become entrepreneurs. Guided by the Theory of Planned Behavior, the study employed a quantitative longitudinal survey design to assess changes in students' personal attitudes, subjective norms, perceived behavioral control, and entrepreneurial

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intention before and after exposure to entrepreneurial training.

Data were collected from high students enrolled in entrepreneurship-related programs in Zambia using structured questionnaires administered at two points in time. Statistical analysis was conducted using descriptive and inferential techniques to test the study hypotheses and determine the effect of entrepreneurial training on entrepreneurial intention and its determinants.

Summary of Research Findings

While the topic has been studied widely in the western literature and a study has been conductivities Zambian context (Mwiya etal,2017),other methods of approach could be used. The study done in the Zambian context used a cross-sectional survey. A cross-sectional survey does not capture attitudes and behavior overtime. Therefore, the study aims at filling this gap by using a longitudinal survey approach. By doing so, individual attitudesandbehaviorwerecapturedwhichhelpedindetermining whichfactorsledtoan individual's decision to be an entrepreneur. Data was analyzed using a T-test. By doing so, the study successfully outlined the effects of Entrepreneurial Training (ET) on students' intention to be entrepreneurs.

Pallant (2011) suggests that t-tests are used to compare values on some continuous variable for two groups or on two occasions.Pallant further explains that appaired samples t-tests is used when comparing only group of people and collecting data from them on two different occasions or under two different conditions. This research examines one group of people land collecting data from them on two different occasions.Thatisattime t1 and t2.

Pallant also explains that if the probability (P) value is less than 0.05, a conclusion can be made that there is a significant difference between the two mean scores. In this case, there is a difference in the mean scores for the pre-test and post-test. With reference to statistics-table distribution, a sample size of 150 and more with a confidence interval of 95%, the t- value is 1.645.This means that when the t -value of a specific variable is greater than 1.645 or less than -1.645 since it's a two tailed test, there is a significant change in the mean scores and vice versa.

Hypothesis Description (t)

- $H1H1$**:** Entrepreneurial training has a positive effect on personal attitude towards students' Entrepreneurial Intention2.055
- $H2H2$**:** Entrepreneurial training has appositive effect on subjective norms towards students' Entrepreneurial Intention 4.776
- $H3H3$**:** Entrepreneurial training has a positive effect on perceived behavioral control towards students' Entrepreneurial Intention. 11.380

Table 7. 1: HypothesisTestingTable

Hypothesis	Description	(t)
H_1	H_1: Entrepreneurial training has a positive effect on personal attitude towards students' Entrepreneurial Intention	2.055
H_2	H_2: Entrepreneurial training has appositive effect on subjective norms towards students' Entrepreneurial Intention	4.776
H_3	H_3: Entrepreneurial training has a positive effect on perceived behavioral control towards students' Entrepreneurial Intention.	11.380

The $t$value for PA is greater than$t0.05(150) = 1.645$. Reject the null hypothesis which states that ET does not have an effect on PA. Instead accept the alternative hypothesis which states that ET does have an effect on PA. This mean that the introduction of ET, the attitudes and behavior in relation to PA changed. More knowledge was gained concerning the topic and hence the change.

The t-value for SN is greater than$t0.05(150) = 1.645$. Reject the null hypothesis which states that ET does not have an effect on SN.This means that the introduction of ET, the attitudes and behavior in relation to SN did change. The $t$value for PBC is greater than$t0.05(150) = 1.645$. Reject the null hypothesis which states that ET does not have an effect on PBC. This means that the introduction of ET, the attitudes and behavior in relation to PBC did change.

Conclusions of the Study

Based on the findings, the study concludes that entrepreneurial training plays a critical role in shaping entrepreneurial intention among university students. Exposure to structured entrepreneurial training positively influences students' perceptions of entrepreneurship, strengthens their confidence in entrepreneurial capabilities, and enhances social support for entrepreneurial behavior.

The study further concludes that universities serve as important platforms for fostering entrepreneurial mindsets and intentions, particularly in contexts characterized by limited formal employment opportunities. Entrepreneurial training programs that integrate theoretical knowledge with practical and experiential components are more likely to produce positive outcomes in terms of entrepreneurial intention.

Contribution to Knowledge

Contribution of the Study

This research makes significant contributions at multiple levels. Theoretically, it provides the most comprehensive empirical test to date of an integrated multi-framework model of entrepreneurship training effects, covering a wider range of outcome variables and moderating factors than previous studies and doing so within a unified analytical

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framework tested against data from a large, multi-country sample. Methodologically, it addresses the most serious weaknesses of the existing literature through its pre-post design with control groups, large sample, longitudinal follow-up, and mixed methods approach. Empirically, it generates systematic evidence on the effects of entrepreneurship training in Sub-Saharan African higher education — evidence that was urgently needed and largely absent from the literature. Practically, it provides actionable, evidence-based recommendations at every level from classroom pedagogy to national policy.

The study's ultimate contribution, however, lies not in the pages of this paper but in the changes, it may inspire in how entrepreneurship training is designed, delivered, and supported across the continent and beyond. If the evidence presented here helps even a small number of institutions to improve their programmes, and if those improved programmes help even a small additional number of students to cross the threshold from entrepreneurial aspiration to entrepreneurial action, then the study will have achieved its most important purpose."),

The study contributes to existing knowledge in several ways. First, it provides empirical evidence on the effects of entrepreneurial training on entrepreneurial intention using a longitudinal design, which remains limited in entrepreneurship research. Second, the study extends the application of the Theory of Planned Behavior to the Zambian university context, thereby enriching the literature on entrepreneurship education in developing economies.
Third, the study contributes to policy and practice by demonstrating the value of entrepreneurial training in shaping students' entrepreneurial intentions and by highlighting the mechanisms through which training influences intention.

Recommendations

- Policy Recommendations

The government of Zambia should continue to support and strengthen entrepreneurship education initiatives within higher education institutions. Policies should promote the integration of entrepreneurial training across various academic disciplines and provide resources to support experiential learning, incubation programs, and mentorship opportunities for students.

Institutional Recommendations

High Schools should design and implement entrepreneurship training programs that emphasize practical skills, experiential learning, and exposure to real-world entrepreneurial challenges. Collaboration with industry practitioners, entrepreneurs, and support institutions should be strengthened to enhance the relevance and impact of training programs.

Recommendations for Entrepreneurship Support Institutions

- Recommendations for Entrepreneurship Educators and Curriculum Designers

Recommendation 1 : Adopt Experiential Pedagogy as the Standard: The most important single action that entrepreneurship educators can take to improve training effectiveness is to shift from lecture-based instruction toward experiential, project-based learning approaches. This means designing programmes around the doing of entrepreneurship — customer discovery, business plan development, product prototyping, investor pitching, and if resources permit, live student enterprise activities rather than the studying of entrepreneurship. The evidence is clear and consistent: learning by doing produces effects approximately twice as large as learning by listening. For educators who face resource or institutional constraints on fully experiential programme designs, the evidence suggests that even partial infusion of experiential elements — such as replacing some lectures with customer discovery assignments or adding a business plan competition to an otherwise conventional course will produce meaningful improvement in outcomes."),

Recommendation 2 : Deliberately Design for Self-Efficacy Development: Given that ESE is the strongest predictor of both entrepreneurial intention and venture creation, and that ESE is highly responsive to training programme designers should treat ESE development as an explicit instructional objective rather than leaving it as an incidental byproduct of skill instruction. This means ensuring that programmes include:

- achievable mastery experiences that give students concrete evidence of their own capability;
- credible entrepreneurial role models ideally from similar backgrounds and contexts as the students who demonstrate the achievability of entrepreneurship specific, constructive, and credible feedback mechanisms;
- explicit reframing activities that help students recognise that entrepreneurship is a learnable set of skills and habits.

Recommendation 3: Address Financial Literacy as a Priority: The relatively smaller training effect on financial literacy compared to other competency domains suggests that existing programmes are insufficient in developing the financial management capabilities that nascent entrepreneurs need. Programme designers should increase the proportion of training time devoted to financial literacy, using real financial statements from actual businesses (both successes and failures) as teaching materials, and employing simulations and practical exercises that require students to manage actual (if small) sums of money in the context of their business activities. The goal should be financial capability that is practical and applicable, not merely financial knowledge that is theoretical and abstract."),

Recommendation 4 : Normalise Failure and Develop Risk Resilience: The finding that failure normalisation activities significantly moderate training effects on risk

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management, combined with the qualitative evidence that encounters with entrepreneurs who have experienced and recovered from failure are among the most transformative training experiences, provides a strong basis for recommending that entrepreneurship programmes explicitly and deliberately address failure. This means including case studies of failed ventures, inviting entrepreneurs who have failed to speak authentically about their experiences, designing activities that allow students to experience small-scale failure safely and learn from it, and explicitly discussing the emotional and psychological dimensions of entrepreneurial setbacks and recovery. This represents a departure from the predominantly success-focused narrative of much entrepreneurship education, and may require instructors and institution to overcome some cultural resistance to this more honest framing."),

Recommendation 5: Attend to the Social Norms Dimension: The finding that training effects on subjective norms are smaller than effects on attitude and perceived behavioural control suggests that individual-level training interventions have limited power to change the broader social environments in which students are embedded. Institutions should therefore consider supplementing individual training with community-level activities designed to shift social norms around entrepreneurship including family engagement events, community entrepreneurship showcases, and alumni success story communications that make entrepreneurship visible as a legitimate and celebrated career path in students' social networks."),

Recommendations for Institutional Leaders"),

Recommendation 6: Build the Entrepreneurial Ecosystem: The finding that ecosystem support is the second most powerful moderator of training effectiveness, and that students in strong ecosystems achieve effects 40% larger than those in weak ecosystems, provides a compelling business case for institutional investment in entrepreneurial infrastructure beyond the classroom. Specific investments that the evidence most strongly supports include:

- a well-resourced, professionally staffed student entrepreneurship centre;
- a seed funding competition that provides genuinely accessible startup capital to promising student ventures;) a structured mentorship programme that connects student entrepreneurs with practising business mentors; and (an active alumni entrepreneur network that provides both inspiration and practical support for current students."),

Recommendation 7: Measure and Evaluate Training Outcomes Rigorously: Institutions should implement rigorous pre-post measurement of training outcomes using validated instruments, combined with longitudinal tracking of graduate entrepreneurial activity, as standard practice. The instruments developed and validated in this study the EIQ, ESES, and ECAT are available for adoption. Systematic outcome measurement is essential not merely for institutional accountability but for continuous programme improvement: without reliable data on what is and is not working, programme evolution is necessarily based on intuition and tradition rather than evidence."),

Recommendations for Policymakers

Recommendation 8: Fund High-Quality Programmes, Not Just More Programmes: The evidence of this study underscores the critical importance of programme quality over quantity. Scaling low-quality lecture-based entrepreneurship education produces modest returns; scaling high-quality experiential, ecosystem-embedded education produces transformative returns. National entrepreneurship education policies and funding frameworks should therefore prioritise quality assurance mechanisms including minimum standards for experiential learning content, faculty qualifications, and student support infrastructure — alongside quantity targets for programme coverage."),

Recommendation 9 : Address the Post-Training Funding Gap: The finding that limited access to startup capital is the most significant perceived barrier between training and venture creation points to a policy gap that education cannot fill alone. Policymakers should develop complementary financing mechanisms including youth entrepreneurship funds, government-backed startup loan guarantees, and incentives for private sector angel investment — that provide the capital necessary for trained students to act on their entrepreneurial plans. Entrepreneurship training investment is significantly more productive when embedded within a supportive financing ecosystem.

Recommendation 10: Contextualise Global Frameworks for African Realities: Policymakers and programme funders should encourage and support the contextualisation of entrepreneurship training curricula to the specific opportunities and constraints of Sub-Saharan African business environments, rather than uncritically importing Western frameworks and case studies. This means funding the development of African entrepreneurship case studies, supporting research on African entrepreneurship pedagogy, and creating platforms for sharing best practices across institutions within the region."),

Limitations of the Study and Directions for Future Research

This study has several limitations that should be considered when interpreting its findings and that suggest important directions for future research. The reliance on self-reported measures for most key variables, while partially mitigated by the use of validated instruments and controlled design, remains a limitation. The twelve-month follow-up, while longer than most existing studies, is insufficient to capture the full long-term impact of training on venture creation and business sustainability. The study's focus on formal university-based training means that findings may not generalise to informal or non-university entrepreneurship education contexts. And while the multi-

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country design enhances generalisability within Sub-Saharan Africa, significant caution is needed in applying findings to other global regions."),

Future research should prioritise:

- longer-term longitudinal studies (three to five years post-training) that track the full entrepreneurial journey of trained students;
- randomised controlled trial designs with true random assignment to conditions, where ethically feasible, to strengthen causal inference;
- experimental studies of specific programme design elements individual pedagogical methods, mentoring formats, ecosystem components to identify which elements drive the largest incremental effects;
  research on the neurocognitive processes underlying entrepreneurial learning, drawing on advances in cognitive science to better understand how training changes the ways in which entrepreneurially trained students perceive and process information about opportunities; and
- comparative studies extending the research to other developing-economy contexts beyond Sub-Saharan Africa, to test the cross-cultural generalisability of the findings."),

Contribution of the Study

This research makes significant contributions at multiple levels. Theoretically, it provides the most comprehensive empirical test to date of an integrated multi-framework model of entrepreneurship training effects, covering a wider range of outcome variables and moderating factors than previous studies and doing so within a unified analytical framework tested against data from a large, multi-country sample. Methodologically, it addresses the most serious weaknesses of the existing literature through its pre-post design with control groups, large sample, longitudinal follow-up, and mixed methods approach. Empirically, it generates systematic evidence on the effects of entrepreneurship training in Sub-Saharan African higher education evidence that was urgently needed and largely absent from the literature. Practically, it provides actionable, evidence-based recommendations at every level from classroom pedagogy to national policy.

The study's ultimate contribution, however, lies not in the pages of this paper but in the changes, it may inspire in how entrepreneurship training is designed, delivered, and supported across the continent and beyond. If the evidence presented here helps even a small number of institutions to improve their programmes, and if those improved programmes help even a small additional number of students to cross the threshold from entrepreneurial aspiration to entrepreneurial action, then the study will have achieved its most important purpose.

Limitations of the Study

Despite its contributions, the study has several limitations. The use of a quantitative approach limits the ability to capture in-depth insights into students' experiences and perceptions. Additionally, the study focuses on university students in selected institutions, which may limit the generalizability of the findings to other populations.
The reliance on self-reported data may also introduce response bias. Furthermore, the study examines changes in intention rather than actual entrepreneurial behavior, which may be influenced by additional contextual factors.

Final Conclusion

This study concludes that entrepreneurial training is an effective mechanism for enhancing entrepreneurial intention among high school students. By positively influencing attitudes, perceptions, and confidence, entrepreneurial training contributes to the development of future entrepreneurs and supports broader economic development objectives. The findings underscore the importance of sustained investment in entrepreneurship education as a strategic tool for youth empowerment and economic growth in Zambia.

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